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AMERICAN SOYBEAN ASSOCIATION

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THE *Soybean Digest*

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EDITOR'S DESK

We Need to Keep Protein Balance

Ceiling prices of many commodities are very much in the limelight—among them ceiling prices on soybean oil meal. Unquestionably the ceiling prices as established a year ago are now out of proportion to demand. Ceiling price on soybean oil is 20.5 cents per pound. Oil is selling for little more than half that figure today. Ceiling on meal is based on $74 per ton basis Decatur, bulk. Meal has been selling at that level since last November, and many plants are sold through March and April now. New crop beans have not touched ceiling. Chances of their doing so do not seem too good.

There are many unusual factors in the price picture today. Soybeans are in what was an enviable position on ceiling—for the $3.33 per bushel ceiling, basis Chicago, was established by the selling price during the one period of 1950 crop movement when prices were relatively good. The basing period of May 26-June 25, 1950, was the very period when the Chinese Nationalists have been accused of cornering the soybean market, forcing prices upward. Had that exact period not been chosen we would have had a ceiling established by parity figures rather than selling price—and a considerably lower ceiling price on soybeans.

However, we now find soybeans in an unfavorable ratio to corn prices. Using the generally accepted 2:1 ratio of prices, the corn prices which have approached $2 per bushel at Chicago look mighty favorable as compared with soybean prices hovering around the $3 mark —and less. The Midwest farmer, in many cases, will consider corn the better bet when making his 1952 planting plans. Seed corn sales, as compared with soybean seed sales, bear this out. It appears that the pattern established by PMA in its acreage goals may be followed —weather permitting. If so, acreage increases in soybeans will come in Minnesota and in the South, with shrinkage through the heavy corn production states. We must maintain a soybean acreage comparable to 1951, or we will find ourselves badly out of balance on protein for livestock feeding, as compared with the feed grains.

With increased livestock numbers it appears that soybean prices should be favorable again next year. That, together with the shortage of farm labor and the scattering of the work load, the presence of planting, cultivating and harvesting equipment, and the fact that farmers in 1951 were able to sell soybeans at a favorable price as compared with soft corn in many areas, should mean stability of acreage.

Should soybean prices drop during coming weeks and months, which seems very unlikely, then the acreage situation might change greatly. Planting plans are now being made. Small grains brought a poor return in 1951. A good portion of the 1952 corn acreage increase may come from that area.

A Revolution in Paint

A practical revolution is taking place in the interior paint industry. Unnoticed by most people, paints of the so-called "rubber base" type are rapidly replacing the old oil base paints for interior wall surfaces, according to trade sources. Ease of application, durability, greater coverage have all contributed to the change. For the first time the home owner is becoming a painter. Paint usage goes up, as it becomes unnecessary to use high-priced labor in application. The roller is replacing the brush. Base material in these new products is the synthetic rubber produced by our World War II plants.

Usage of vegetable oils in interior finishes will shrink rapidly as this trend continues. What was once a huge market for linseed and other drying oils has shrunk—and is continuing to shrink—to a mere trickle. There is nothing to indicate a change in the trend.

All fats and oils are interdependent in the marketplace. Inside paints have not been a large market for soybean oil, except perhaps in enamels. But any replacement of linseed in paint directly affects all fats and oils pricewise. When one oil becomes more available or cheaper in price, it affects all oils, including soybean oil.

The trend must be reflected in linseed oil supplies and prices sooner or later. As it becomes apparent, soybean prices will be affected through the oil markets. Could it be that the interior paint revolution has already affected soybean oil prices?

Better Write Your Congressman

The squandering of public money today is the concern of every taxpayer. Much of our tax money goes to the military forces—and certainly some of it is spent wisely, along with much which is wasted. But we probably are not going to do much about military expenditures this year. We can do something about non-military expenditures.

The Department of Commerce spent $75 million in 1940. In 1950 it spent $863 million. Was that increase necessary? Was it necessary for the Interior Department, which spent $71 million in 1940, to spend $568 million in 1950? The Labor Department, which spent $18 million in 1940, to spend $257 million in 1950? The State Department, which spent $20 million in 1940, to spend $361 million in 1950?

Federal, state and local taxes now take approximately $1 out of every $3 of national income. No nation has ever endured such taxation for a period of time. There is no reason to believe our nation can do so for long. It looks like trimming the federal non-military budget is the place to start. Your members of Congress appropriate the federal funds. Congress is now in session. Let them know that you are behind them in economy—that you will back them up when they stand up for decreased spending. Let not the member of Congress who has the fortitude to stand up against the tirades of government spenders go unheralded. He should be the man of the hour from today forward.

Looks Like More Beans in Miss. Delta

Soybean acreage in the Mississippi Delta will increase substantially this year, and greater efforts will be made to improve quality, say Delta county agents in this area, according to the Memphis, Tenn., Commercial Appeal. Surveys by the agents show the Delta acreage will be increased as a whole by about 15 percent.

Some 347,000 acres were planted to soybeans in Mississippi the past year. The acreage in most of the Delta counties was held down because of weather, and much acreage abandoned due to poor stands or grass and weeds. Mississippi's soybean production goal this year is set at 385,000 acres—11 percent more than in 1951.

Elmo Hill, county agent at Belzoni, says there will be between 50 and 100 percent increase in soybean planting over last year. Hill says farmers have already bought and stored enough seed beans for this increase.

Agent Jack Barnett in Tunica County says a prospective labor shortage is going to bring about a greater acreage in soybeans there. He says farmers were fairly well pleased with yields obtained last year despite adverse weather conditions.

L. H. Moseley, district extension agent, says Delta farmers are losing a considerable amount of money each year from dockage due to excessive foreign material from weeds and grasses. This has caused lots of beans to spoil in storage and in shipment.

County Agent Cecil Black at Indianola says dockage from excessive foreign material is a most acute problem in Sunflower County. He is planning a campaign along with farm leaders in that county to "clean up" fields, cultivate right, and harvest for quality.

Lincolns Lead in Neb.

Lincolns led all other varieties in yield tests in three out of four locations in Nebraska in 1951, reports the Nebraska Grain Improvement Association. Yields of Lincoln varied from 30.8 to 42.7 bushels per acre in the four locations, which were all in eastern Nebraska, except for the location in Buffalo County in central Nebraska. This was irrigated. The tests were part of the Nebraska Experiment Station outstate crops testing program.

Hawkeye with 40.9 bushels and Earlyana with 39.7 out-yielded Lincoln with 39.4 bushels in Dakota County in the northeast part of the state.

The yield tests "confirm our belief that soybeans are a practical crop for several areas of the state," reports the Nebraska Grain Improvement Association.

"The earlier varieties were favored this year because of the short growing season. From the standpoint of resistance to lodging, Hawkeye and Blackhawk were outstanding.

"With the yield of newer varieties (Adams, Hawkeve, Blackhawk and Lincoln) averaging nearly 35 bushels per acre and pushing the $3 mark, the farmer who replaced a part of his corn acreage with soybeans probably received a very satisfactory return for his labor."

Other varieties tested were Dunfield and Richland.

Variety	Yield in bushels per acre			
	Dakota County (Northeast)	Dodge County (East Central)	Lancaster County (Southeast)	Buffalo County (Irrig. Central)
Adams	34.6	30.1	27.6	36.9
Blackhawk	40.1	33.1	27.4	40.3
Dunfield	30.4	24.1		35.4
Earlyana	39.7	33.0	24.0	38.1
Hawkeye	40.9	31.5	30.2	37.1
Lincoln	39.4	34.4	30.8	42.7
Richland	35.4	30.4	28.0	36.5

Treatment in Delta

Seed treatment tests with soybeans conducted at the Delta Branch Experiment Station, Stoneville, Miss., during the past four years indicate that seed treatment is a sound practice in that area, reports Howard W. Johnson, senior pathologist of the U. S. Department of Agriculture division of forage crops and diseases.

The tests at Stoneville involved several seed treatment chemicals and several varieties or strains of soybeans each year.

Treatment of poorer germinating soybean seed showed a greater increase of emergence than did treatment of better quality seed.

Storage of soybean seed from harvest in the fall to planting time the next spring is frequently a problem in the Delta area due to the occurrence of warm, humid weather at times during the winter and early spring. Since loss of viability seems to be due in part to microbiological activity, it appeared that treating the seed with a chemical disinfectant in the fall might aid in preserving the germinability of the seed during the storage period.

A test of this type was set up. The seed was treated immediately after harvest and was stored in cloth bags in a seed house where it was subject to fluctuating conditions of temperature and humidity until planted in the field on May 5.

It would appear from the results of this test that treating soybean seed with either Arasan or Spergon should aid in maintaining the germinability

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of soybean seed during the storage period. Mercurial dusts, however, did not give good results for this purpose.

The author warns that seed treatment is not recommended where soybeans are to be planted in a field for the first time, since seed treatment will impair the efficiency of the inoculant to a greater or lesser extent, depending on the treatment used.

See Service Sheet 419, "Soybean Seed Treatment for the Delta," by Howard W. Johnson, Delta Branch Experiment Station, Stoneville, Miss.

Soys Fifth in Tenn.

In 10 years, starting shortly after release of the Ogden soybean by the Tennessee Agricultural Experiment Station, the soybean has moved into fifth place in value of all Tennessee crops, states A. J. Sims of the University of Tennessee in Progressive Farmer.

In 1949, three times as many farmers harvested eight times as many acres, producing 22 times as many bushels as they did only 10 years previously. Value of the crop increased from $160,000 to over 7 million dollars.

Leading Tennessee counties in soybean production are Dyer, Lake, Obion, Lauderdale, Tipton, Gibson, Weakley, Coffee, Hardin, and Haywood. They produced 84 percent of the state's crop in 1949.

Development of the Ogden soybean by the Agricultural Experiment Station has been a big factor in making the soybean "the wonder crop of the state." Ogden outyields former varieties, has a high oil content, and matures in midseason. These are some of the reasons why it is now the most widely grown soybean in Southern states.

A conservative estimate, agronomists say, is that the Ogden soybean has brought producers an increase of $20 or more per acre, which is pointed out as a tribute to the ability of Tennessee farmers to make use of findings from agricultural research.

This is another example of how farmers have been able to step up production in recent years despite a sharp drop in farm population.

A Champion Is Crowned

President Hovde of Purdue University (right) presents Earl Musgrave (center) of Morgan County, the 1951 Indiana soybean yield champion, with a certificate memorializing his achievement. Musgrave had just been presented to the Purdue president by his county agent, William Record (left). The champ also received a diamond studded rose gold medal through the cooperation of Fred Thomas of Central Soya Co., Inc., and his firm. Musgrave topped 103 contestants with 60.9 bushels per acre, one of the all-time high yields in yield contests.

Are Third in Minn.

Soybeans now rank third in dollar value as a farm crop in Minnesota, according to figures given us by John W. Evans, Montevideo, Minn., director of the American Soybean Association.

The 1951 soybean crop in Minnesota was exceeded in value only by corn and oats. Value of the corn crop was $322,557,000; of oats $170,210,000. Value of the soybean crop was $50,890,000.

Soybeans stood in fourth place in 1950, as barley exceeded the soybean crop in value, in addition to corn and oats.

Flax, much better known as a minnesota crop than soybeans until recent years, was in sixth place in 1951. Value of the flax crop was $38,500,000.

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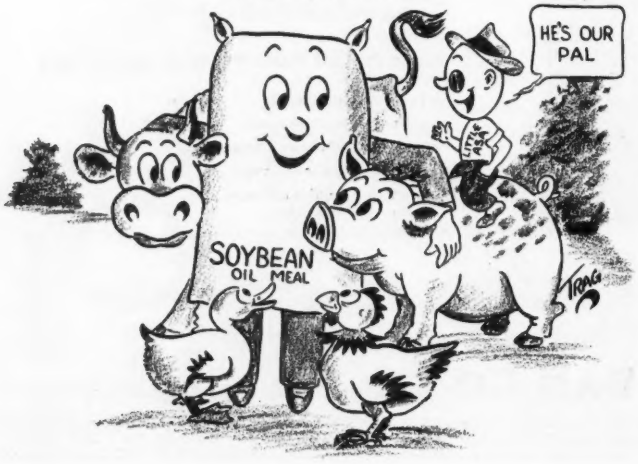

FEEDING

Salt and Soybean Meal

Do feeders always make allowance for the increased salt needs of their livestock when they switch from animal proteins to a larger percentage of vegetable supplements such as soybean oil meal?

Pigs, particularly, need more salt when the animal proteins are eliminated from their ration. The animal proteins such as tankage, meat scraps and fish meal are relatively high in salt content. But vegetable protein supplements are much lower in salt content.

The intimate connection between salt and protein digestion is not always realized. Proteins must be broken down into the simpler amino acids during digestion. But the protein molecule is surrounded by a hard shell that only an acid can break through. Salt furnishes chlorine, one element of hydrochloric acid that works on the protein molecule. Without enough salt there is improper assimilation of protein.

For authoritative discussions of the mineral needs of farm animals see:

MINERALS IN LIVESTOCK FEEDING, Circular 688, by H. H. Mitchell, professor of animal nutrition, University of Illinois, Urbana, Ill.

MEETING THE MINERAL NEEDS OF FARM ANIMALS, Bulletin 350, by L. A. Maynard and J. K. Loosli, Cornell University, Ithaca, N. Y.

Dairy Cows, Protein

Are dairy cows commonly fed a higher level of protein than is necessary to maintain milk production? L. A. Moore, head of the division of nutrition and physiology of the U. S. Department of Agriculture, believes that the protein content of the grain-supplement mixture could be 3 to 4 percent lower than now generally recommended without sacrificing milk production. He bases this conclusion on an experiment at Beltsville on grain mixtures of different protein levels.

NEW IDEAS ON PROTEIN IN DAIRY COW RATIONS. By L. A. Moore, head division of nutrition and physiology, U. S. Department of Agriculture. Butter-Fat, Sept. 1951.

THE COVER PICTURE

Another new processor installation was the 200-ton-capacity solvent extraction unit of Funk Bros. Seed Co. at Bloomington, Ill., that began operations the first of the year.

Funks are soybean processors in addition to being producers of soybeans and other farm seeds and the famous "Funk's G Hybrid" seed corn. They process "Funk's" soybean oil meal and "Minrol Soy."

The new plant, which increases Funk's processing capacity by over a third, is a French Oil Mill Machinery Co. horizontal hexane extraction unit.

Eugene D. Funk is president of the firm. Harold A. Abbott is manager of the soybean division.

In the left background you see the solvent plant of Ralston Purina Co., which also operates in Bloomington.

—sbd—

NIGERIAN PRICE

A price equivalent of $1.50 per bushel has been set for the current soybean crop in Nigeria, reports USDA's Foreign Crops and Markets. Crop prospects are rated as good.

During the 1950-51 season 131,400 bushels were purchased for export in Nigeria.

The Soybean Vs. Malnutrition

SOY FOODS PLAY BIG PART IN CROP'S HUNGER-DISPELLING PROGRAM

By GARRY S. WILLS

THE SOYBEAN is being hailed as the No. 1 weapon in the world-wide battle against malnutrition. In war-torn areas and areas stricken by natural disasters it is meeting the need for food which must be low in price and high in nutritional value. Crop and stock-depleted Western European countries are being introduced to soybeans for the first time through the organization called the Christian Rural Overseas Program (CROP).

CROP was organized by three major church agencies in 1947 to provide stop-gap aid for war-orphaned, displaced, expelled, maimed, sick and aged people overseas. Operated as a farm community program on a nationwide basis, it collected bulk farm products for distribution by representatives of its sponsoring agencies—Catholic Rural Life; Church World Service, serving 29 Protestant denominations; and Lutheran World Relief. Since 1947 CROP has shipped nearly 100 million pounds of commodities for mass distribution in 32 countries.

In 1947 a trial shipment of 468,048 pounds of soybeans was dispatched to Bremen, Germany. It was used for experimental manufactures of food and for seed to test its growth. The shipment proved that for further relief measures soybeans were of particular importance. By means of them the alarming lack of fat and protein in Germany could be provided in the most inexpensive way.

Methods were developed by the Germans to remove the bitter taste of the raw uncooked bean and to create soy products which retained the whole nutritive strength of the ripe raw soybean. Once freed from their bitter taste, the beans were processed into full-fat soy flour, full-fat grits and full-fat soy flakes. These products on analysis showed a content of 40 percent of body-developing, tissue-restoring protein and 20 percent of energy-giving fat.

In order to make sure of a proper use of full-fat soy products in the kitchen, the peculiarities of German cooking and serving had to be combined with the scanty rations of the day. Special recipes for the preparation of soy foods were worked out, and cooking demonstrations were given at many points of the Western Zone.

William Z. Cline, CROP national public relations director (left), and Ben T. Gildersleeve, soybean champion of the International Hay and Grain Show, examine a bag of soybeans on display at the CROP booth at the International amphitheater. Soybeans are part of the many staple foods that CROP collects for distribution among hungry people overseas.

On account of their mellow nut-like taste soybeans could be used without hesitation to supplement all dishes. In some instances they were administered as a sandwich spread which applied easily and satisfied the appetite. To combat fatigue during working hours, they were toasted so that their taste resembled that of peanuts. For child-feeding programs they were mixed with wheat to make a cereal which tasted like cocoa when sugar was added. They also were made into milk.

Contrary to popular opinion, it is not necessary to undertake technical processing such as the Germans have developed to accomplish desired results. It is now known that soybeans can be cooked and eaten in the same manner as navy or other varieties of

beans. Because of their superlative dietary food value, the University of Illinois, College of Agriculture, has published Circular No. 662 to stimulate usage for human consumption. Recipes given include directions for cooking and serving the cooked beans as a substitute for navy or lima beans and as a sandwich filling; roasting for use as a delicacy like salted peanuts; making and using soybean milk; making and using soybean curd as a substitute for cheese or as a blend in various hot dishes. With perhaps some variation in seasoning ingredients, these simple recipes could be utilized in places where mass feeding is required.

Results Concrete

After processing, the soybean shipment to Germany was distributed to orphanages, old people's homes, refugee camps, hospitals, nursing and recreational homes, nurseries, and educational institutions. In each instance the effect of such supplementary food was noted. Additional experiments were made with sick people, white collar workers and laborers who were under the supervision of physicians.

In a Bremen hospital half of the 80 patients in two wards were given supplemental feedings of soybean products. Those who received soybeans amounting from 50 to 70 grams (about 2 ounces) daily gained in a two-week period 1.70 kilograms (3.78 pounds), while those who received no such supplement gained only 0.45 kilograms (1 pound).

A boarding school for refugee pupils in Timmendorfer Strand, Germany, reported, "Today we are in a position to state that soy flakes have made it possible for us to improve the nourishment of our refugee pupils very much. The first kitchen tests with these soy flakes fully confirmed statements regarding the removal of the bitter taste and the excellent palatability. The cooking recipes offer a rich variety in preparation."

German physicians' reports include lavish statements on the value of soybean products. Typical statements were:

"The experiments open new ways and means for the treatment of undernourished patients." . . . "The full-fat soy products are really hunger-appeasing and fatigue-dispelling cereals." . . . "The full-fat soy products stimulate growth and development."

The discovery of these modern physicians is not new to the world. In Manchuria, where the first written record was found, the soybean has been a major source of protein for human consumption through many centuries. The symbol representing soybeans in the Chinese language is literally translated "meat without bones." In many parts of Asia where animal proteins have not been available, soybeans have been the major nutritional balancing factor for rice and wheat—the staffs of life for those areas.

The rise of the United States as the world's biggest producer is most impressive when it is recalled that less than half a century ago the plant was hardly more than a botanical curiosity in this country. Imported from China, the soybean did not become an important American crop until the 1920's. In 1925 American farmers planted 1½ million acres of soybeans and harvested 4,800,000 bushels. Last year they planted more than 13 million acres. They harvested 280 million bushels, the second biggest crop on record and almost half of the world crop.

Food chemists regard the protein of the soybean as being one of the most complete of all vegetable proteins, and most like that of milk, meat and eggs. The soybean contains 35 to 40 percent protein, 18 to 20 percent fat and yields a high percentage of calories. As a supplementary food, it is approximately of the same nature as meat and potatoes, bread and milk.

When soy products are being used, other highly nutritive but expensive foods can be eliminated. For the same amount of money, more than twice the number of people can be fed with soy products and yet obtain the same number of calories and the same proportion of protein and fat.

Soys deliver the knockout punch

A nutritional table devised by Professor Dr. Wilhelm Ziegelmayer, Bremen, reads:

Quantity	Commodity	Protein	Fat	Carbohydrates	Calories
50 grams	Soy	21 gr.	10.0 gr.	12.0 gr.	229
4	Eggs	18 gr.	16.2 gr.	0.9 gr.	228
100 grams	Beef without bones	20 gr.	10.0 gr.	— gr.	175
½ quart	Unskimmed milk	20 gr.	15.5 gr.	24.0 gr.	310

The soybean furthermore contains a large proportion of vitamins and lecithin and high percentages of potassium, sodium, calcium, magnesium, phosphorus, sulphur, chlorine and iron. It is a source of vitamin A which is essential to the maintenance of the normal cellular structure and function of the body's external and internal membranes. The alarming spread of tuberculosis in Germany can be checked by supplemental feedings of foodstuffs rich in vitamin A.

B Vitamins

Its vitamin B-1 is essential to the right use of the fuel foodstuffs in our body tissues. When there is a serious deficiency of B-1 the burning of the fuel foodstuffs, and particularly of the carbohydrates in the body, is interrupted. The disease, beriberi, which is common in Oriental countries where large numbers of people live predominantly on white rice, is brought about by a lack of vitamin B-1.

The vitamin B-2 contained in the soybean is an important factor in the oxidation enzymes of our tissues and in the maintenance of their stamina and resistance to strain and to several diseases. It is one of the nutrients used in conquering pellagra, a disease common to India and various other parts of the world. Niacin in the soybean also is a nutrient used for the prevention and cure of pellagra.

Vitamin C found in the soybean prevents scurvy and cures it with dramatic promptness if it is not too far advanced.

Considering balanced dietary values and unit market prices of produce, there is no other relief food that can surpass the soybean. CROP foresees extensive use of the soybean as a supplement to the farm products rural Americans are contributing toward a better world.

— s b d —

Fertilizers and Fertility FOR HIGH YIELDS

By DONALD G. HANWAY
Assistant Agronomist, University of Nebraska, at the Nebraska Soybean Conference

THE AVERAGE YIELDS of soybeans for Nebraska, Iowa, and the United States for the past five and ten-year periods might well be considered as a starting point in a discussion of fertility. (See Table 1)

Table 1. Five and ten-year average soybean yields in bushels per acre in Nebraska, Iowa, and the United States. (1941-1950 and 1946-1950)

	Ten-yr. Ave.	Five-yr. Ave.
United States	19.5	20.5
Iowa	20.0	21.2
Nebraska	17.8	20.9

These figures indicate that the growers here are doing a comparatively good job, especially since Nebraska is considered to be on the fringe of the area where soybeans are adapted. Average annual yields show a steady increase that cannot be attributed entirely to favorable weather.

Can the yields of the last five years for Nebraska be maintained or exceeded? There is no evident reason why they cannot. Contouring, other conservation practices, and weed control can be used to conserve for the soybeans both moisture and fertility that would otherwise be wasted.. The acreage of soybeans under irrigation is increasing and average yields there should be high. Definitely improved varieties and better understanding of cultural practices make profitable yields more certain today.

Not Whole Story

Not many years ago soybeans had the reputation of being a "poor-soil" crop, apparently because they yielded better under conditions of low fertility than other crops and responded less to direct fertilization. The response on soils of low fertility was without doubt due to the fact that nitrogen was taken from the air by bacteria in the nodules on the roots, if they were properly inoculated, and made available to the plant whereas cereal crops had no such source. While a tribute to soybeans in a way, this does not indicate the conditions necessary for high yields.

The highest recorded yield of soybeans in the United States is 61.8 bushels per acre obtained on two acres of a 20-acre field in Indiana in 1949. To achieve this yield, the grower plowed down manure and used 200 pounds of 0-12-12 fertilizer in the row. He planted Lincoln soybeans at the rate of three pecks in rows averaging 37 inches apart. He controlled weeds. But these practices are only a part of the story. Probably the most important factor was the high level of fertility that he maintained by a good rotation, applications of manure, and use of fertilizers. Soybeans respond to fertility in a similar manner to other crops. If a field will produce a high yield of corn, chances are it will do likewise with soybeans.

How can a high fertility level be maintained on a farm? A good rotation is essential to the maintenance of high productivity. The basis of a good rotation is a meadow crop containing a legume such as alfalfa, sweet clover, or red clover. If failures of new seedings of these occur after a good seedbed has been prepared, a soil test may indicate that the soil is acid and that lime is needed. If soybeans are harvested for beans, they will not maintain the organic matter content nor increase the nitrogen level of the soil. Only as a green manure crop turned under when fully grown, would they be classed as soil building.

Manure applied in the rotation aids in maintaining the levels of nitrogen, phosphorus, and potassium, at the same time improving soil structure and adding organic matter. Returning crop residues to the soil is an important factor in maintaining the organic matter content. Any practices that will help maintain a high level of fertility will help insure high soybean yields.

Will soybeans respond to direct applications of fertilizers? In general it can be said that they respond less than other crops. It is a well-known fact that they will grow quite well in soils that are too acid for alfalfa and sweet clover. Still it is probable that lime applied for these other legumes, if lime might here be considered a fertilizer, will directly increase soybean yields in the rotation. Soybeans have a fairly high calcium requirement. In addition the bacteria in the nodules are more efficient under less acid conditions. One experiment comparing the effects of acidity through the pH range of 4.4 to 7.7 showed maximum soybean yields at a pH of 6.8. Soils differ in this respect. Sandy soils may need lime whereas a finer-textured soil of the same pH would not. The soil testing service can make reliable recommendations in regard to the need for lime and the amount to be applied.

Use of Phosphate

On soils deficient in available phosphorus the addition of phosphate fertilizers may result in higher yields. Two years data at Lincoln show little or no effect from adding 60 pounds available P_2O_5 per acre in the form of superphosphate.

Potash fertilizers may be profitably used on potash deficient soils. Under most conditions, however, direct applications of these fertilizers to soybeans would not be recommended. Since soybeans are very sensitive to salt injury, fertilizers if used should be applied in a separate operation from seeding, either by broadcasting and plowing down or else by drilling in ahead of planting. The application of potash or phosphate for other crops in the rotation that do respond will insure adequate amounts for soybeans.

Symptoms of iron deficiency have been observed in fields in Dodge County. The leaves of plants from the time they are small up to a height of 12-14 inches may show the lack of normal green coloration, particularly between the veins, but this may become severe enough to cause the entire leaf to be almost white. Plants tend to be stunted. Iron deficiency can be expected most frequently in fields where alkali spots occur or where the soil is quite limy in reaction since iron in the soil is unavailable to plants under these conditions. If symptoms are observed, the field can be sprayed with iron sulfate solution. Two spray applications of 10 pounds of ferrous sulfate at weekly

intervals when plants are small should overcome the effects of iron deficiency for the crop season.

On certain soils in Indiana manganese deficiency symptoms have been observed. Where they have occurred, applying three to seven pounds per acre of manganese sulfate as a spray has proved an effective remedy. Thirty to sixty pounds of manganese sulfate applied as a mixed fertilizer in bands at planting time was also effective.

Need Extra Nitrogen

What about nitrogen? Do nodulated soybeans fix enough for maximum yields? Most studies have indicated that they do not. Workers at Iowa, by including a certain percentage of a heavy isotope of nitrogen in the fertilizer applied to inoculated soybeans plants (this acts like ordinary nitrogen in the plant but can be identified in analysis), found that plants obtained 100 percent of their nitrogen from the atmosphere when the soil in which they grew contained no combined nitrogen whereas they obtained only 30 percent from the air when large quantities of combined nitrogen were applied to the soil.

The actual amount of nitrogen fixed for legumes in the nodules is exceedingly difficult to determine under field conditions. Estimates in different studies have varied from about 25 to 100 pounds per acre per year. This can be compared with roughly 75 pounds of nitrogen that would be removed if soybeans yielded 20 bushels per acre. The amount fixed is influenced by many factors. Strains of bacteria differ in the efficiency with which they fix nitrogen. As the nitrogen level in the soil increases, the amount fixed seems to decrease although most studies seem to indicate that some fixation occurs even where the fertility level is high. The bacteria lose efficiency if the soil is too acid. Soil aeration, moisture, and temperature conditions undoubtedly have effects which are constantly changing. The fact that yields of crops following soybeans are usually higher than those following corn or other cereals indicates that soybeans do leave the soil with a higher level of available nitrogen and/or a more favorable structure.

Can nitrogen fertilizer be applied profitably to soybeans? Under the right conditions it probably can. In most cases one of those conditions would be a soil of medium low fertility. The most profitable recommendation to be made is the use of such farming practices that will maintain fertility at a high level. The benefits are then observed in every crop in the rotation.

In general it is better to apply fertilizer some other place in the rotation than it is direct on soybeans.

To indicate, however, what may occur when soybeans are fertilized directly, the information in Table 2 is presented. The phosphorus was applied as treble superphosphate drilled in the row about three inches below the seed ahead of planting. The nitrogen in the form of ammonium nitrate was applied as a side-dressing when the plants were in the bud stage but before the start of blooming.

Table 2. Results of inoculation and fertilizer treatments applied to soybeans grown on the Agronomy Farm at Lincoln, Nebr., in 1949.

Treatment N - P2O5 - K2O	Yield Bu./A	Grams per 100 beans	Protein % lbs./A	Oil % lbs./A
lb. per acre				
0 - 0 - 0	21.7	10.4	32.2 419	24.3 316
0 - 60 - 0	22.2	9.9	31.8 424	24.1 321
Inoculation+				
0 - 60 - 0	25.5	11.0	33.3 509	23.8 364
30 - 60 - 0	27.3	10.9	33.3 545	23.7 388
60 - 60 - 0	29.5	12.0	34.6 612	23.9 423
120 - 60 - 0	31.5	12.5	36.2 684	23.4 442

The following points should be noted:

1—The yield of the check indicates a moderate level of fertility.

2—Phosphate had little effect on the yield.

3—Inoculation increased the yield about three bushels but not quite as much as an application of 30 pounds of nitrogen.

4—The first 30 pounds of nitrogen produced the greatest increase, but the yield was still going up when 120 pounds was added.

5—Seed size from the check plots was about two-thirds of normal. Nitrogen distinctly increased seed size.

6—Nitrogen fertilization increased the percentage of protein in the beans and greatly increased the protein yield per acre.

7—With increased amounts of fertilizer the yield of oil in pounds per acre increased, but the percentage decreased. This inverse relationship between protein and oil percentages is usually observed.

Apply at Bud Stage

A similar experiment in 1950 produced essentially the same results. If nitrogen were priced at 17 cents a pound as at present and soybeans were worth $3 per bushel, the above results would indicate that nitrogen fertilizers would be profitable if applied to soybeans. From studies conducted elsewhere it seems that soybeans need the most nitrogen during the period when they are making the most rapid growth. This period probably starts in the early bud stage. Nitrogen applied at this time has been shown to have a bigger effect on yield than if applied at planting.

Too many variables are involved to allow the recommendation of nitrogen fertilization for soybeans as a general practice. If the moisture supply were good when the soybeans

were eight to ten inches tall, the fertility level somewhat low, and the price relationships right, the above data would indicate that the application of a fertilizer at a rate that would give 30 pounds of nitrogen per acre would be profitable. Chances of getting a yield increase from such an application would probably be best if it were applied as a sidedressing when the plants were eight to twelve inches high.

Summary

Since soybeans respond to fertility in much the same way as any other crop, high yields will be obtained if they are grown in a rotation that maintains a high level of fertility. Such a rotation should include alfalfa, sweet clover, or red clover and be limed if the acidity is such that liming is necessary to make these crops successful. The application of manures and return of all crop residues is important. Contouring and other conservation practices that will conserve water and soil are recommended.

Soils that are deficient in available phosphorus, potash, iron, or manganese will require the addition of these elements in mixed fertilizers or as spray applications if they are to produce maximum yields of the different crops in the rotation. Soil tests will serve as a guide in determining such needs.

Although raising the general fertility level will increase soybean yields, they seem to respond less to direct fertilization than other crops. Nevertheless if definite deficiencies exist for some required nutrients, soybeans will respond when fertilizers correcting such conditions are added.

Soybeans are unable to fix all the nitrogen needed to give maximum yields. Under conditions of moderate to low soil fertility yield increases resulting from side-dressing soybeans when eight to twelve inches high with nitrogen fertilizer at rates to give 30 pounds of nitrogen per acre may be profitable.

—sbd—

PROCESSOR MEETING

The annual Tri-State Processors' Conference for Missouri, Iowa and Minnesota will be held at Iowa State College, Ames, Mar. 4 and 5, C. R. Weber, associate professor at Iowa State College, who is chairman of the program committee, has announced.

The conference will start off with an evening dinner and program at the college Mar. 4. The second day's program will include a panel discussion on "Production Capacity of Soybeans and Soybean Products."

J. E. JOHNSON

ROBERT E. PETERSON

Peterson to Manage S-K Meal Dept.

Howard Kellogg, Jr., president of Spencer Kellogg & Sons, Inc., Buffalo, N. Y., has announced the resignation and retirement of J. E. Johnson, manager of the company's oil meal department.

Johnson will be succeeded by Robert E. Peterson as manager of the department, Kellogg said.

Johnson joined Spencer Kellogg in Sept. 1928 when it acquired the business and assets of the American Linseed Co. For a time he was western division sales manager at Des Moines, Iowa.

In 1935 when Spencer Kellogg entered the infant but growing soybean industry, Johnson was assigned the responsibility of organizing and heading a newly created soybean division in Chicago. As the division grew in size and importance, he was transferred first to Decatur, Ill., and then to the home office in Buffalo to head the soybean oil meal department—a position he has held ever since.

During the ensuing 17 years Spencer Kellogg became one of the three largest processors of soybeans in the world with six of its eight plants equipped to process soybeans. Three of its plants, located in the heart of the soybean growing area at Des Moines, Iowa, Decatur, Ill., and Bellevue, Ohio, are among the largest and most modern in the industry.

Johnson is retiring from active business earlier than the company's usual retirement age in order to devote his major attention to recovering his health.

Peterson joined Spencer Kellogg in Dec. 1935 shortly after the firm's soybean division was organized. His first assignment was in the soybean purchasing department of that division. He also was transferred to Decatur and then to Buffalo. He became assistant manager of the department in 1948.

Because Johnson was forced by poor health to be relatively inactive for the past 15 months, Peterson has had an excellent opportunity to become thoroughly familiar with the managerial responsibilities of the department.

A youthful veteran of 16 years' experience in the soybean industry, he has had an important part in the expansion of Spencer Kellogg's soybean operations.

—sbd—

EXPORT SCHEDULE

The Bureau of the Census, U.S. Department of Commerce, has issued a new Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States. The 1952 edition of Schedule B may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., local Collectors of Customs, and Department of Commerce field offices in principal cities at a cost of $3.50 to domestic subscribers and $4.75 to foreign subscribers.

Altogether the 1952 edition of Schedule B contains approximately 1,100 new commodity classifications. There are 22 classifications for refined vegetable oils and fats.

Choose your own row spacing

WITH THE MODEL G TRACTOR

Soybean rows should be spaced to make the best use of soil fertility and moisture. Whether you like them corn-row width or narrow-spaced, you can plant and cultivate with the Model G.

On fertile soil many growers now space rows 18 to 28 inches apart. They get more plants per acre and beans smother the weeds quicker.

Allis-Chalmers rear-engine Model G Tractor and implements handle soybeans in any row width from 18 to 42 inches. Planters and cultivators can be spaced in or out to any position on the tool bar. You can plant and cultivate up to three rows of soybeans or six rows of vegetables at a time. Rear-engine design gives you unobstructed row vision.

Let your Allis-Chalmers dealer show you how easily you can choose your own spacing with the Model G.

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Soybeans Third in Futures Trading

Soybeans dropped from first place to third in the value of futures trading in the fiscal year ending June 30, 1951, as compared with fiscal 1950, according to the annual report of J. M. Mehl, administrator of the Commodity Exchange Authority.

Trading in soybean futures totaled $8,899,167,000 in 1951, which was only slightly under the 1950 volume of $9,251,599,000. Cotton led all other commodities in value of futures trading, amounting to 16.7 billion dollars. Wheat was second with 11.1 billion.

In public hearings during the year the Commodity Exchange Authority recommended "speculative limits" on the trades and positions of large traders in soybeans futures. On Oct. 1 such limits were put into effect.

"Speculative limits have proved a strong deterrent to market abuses in grains and cotton, and similar limits in soybeans and eggs should help to protect the marketing of these commodities also from the effects of heavyweight speculative operations," Mehl said.

There were large increases in the trading volumes of both soybean oil and soybean oil meal during the last fiscal year, according to the CEA report. Soybean oil traded in 1951 was $625,274,000 compared with $26,344,000 in 1950. The total of meal traded in 1951 was $176,255,000 compared with $86,679,000 in 1950.

Chicago Trading

Volume of soybean futures traded on the Chicago Board of Trade in the calendar year 1951 totaled 2,341,012,000 bushels, according to Carl E. Bostrom, president of the Board. This compares with 3,906,799,000 bushels traded in 1950.

Total soybean receipts at Chicago —both rail and water—during 1951 were 20,046,000 bushels compared with 19,243,000 bushels in 1950.

"Fortunately," said Bostrom, "none of the commodities traded on the Chicago Board of Trade are at an OPS ceiling with the exception of the nearby delivery of soybean oil meal which is at the $74 per ton figure imposed by the government. Soybeans and the other grains are trading freely. In view of relatively adequate supplies, it is hoped and believed that they shall continue to do so in the foreseeable future.

"In situations where commodities have sold up to ceilings and frozen, only chaos and waste resulted. Such ceilings only generate and aggravate shortages, penalize honest, legitimate operators, reward black marketeers, cause quality deterioration and short weights, dissipate needed manpower, curtail production, and have dangerous after effects."

—sbd—

BROWN APPOINTMENTS

R. J. Brown, president, the R. J. Brown Co., 1418 Wittenberg Ave., St. Louis, Mo., has announced the following promotions and appointments:

T. M. Scherer, formerly vice president, has been named executive vice president. A. H. Wallace, sales manager, E. L. Metcalf, technical director, and Charles C. Berry have been appointed vice presidents.

Brown has been active in the development and distribution of petroleum specialties and solvents for the paint industry for almost 40 years, and the company has become the largest independent petroleum naphtha marketing organization in the country.

Scherer has been associated with Brown for over 30 years and has been an officer of the R. J. Brown Co. since 1927.

A. H. Wallace joined the organization in 1932 and was active in developing territories throughout the country. He was appointed sales manager in 1946.

E. L. Metcalf became associated with the R. J. Brown Co. in 1945, having previously been active in paint manufacturing in Texas, and with the Bakelite Corp. as a technical representative.

Charles Berry has been with the R. J. Brown Co. since 1933 and has directed operations in Detroit and Michigan since 1945.

Haul Soybeans in Covered Hoppers

—Photo by Canadian Transportation

Soybeans are among the commodities being hauled by the covered hopper cars in use on Canadian railways. Here a carload of soybeans (slightly over 2,000 bushels) is being unloaded on the Victory Mills, Ltd., bulk unloading pit at Toronto, Ontario.

C. V. Musselwhite, Victory Mills traffic manager, his assistant, J. G. Patterson, and several company executives inspect the unloading operation.

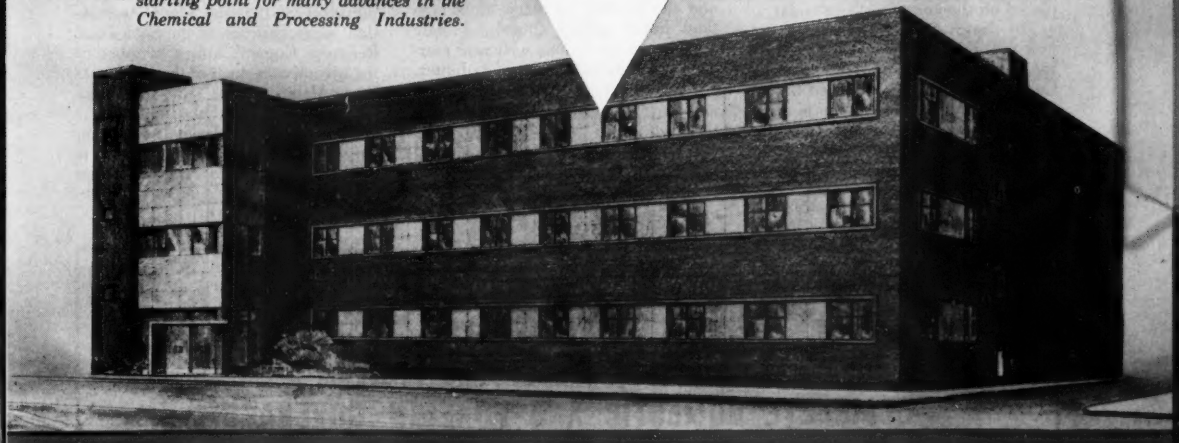
The soybeans were Ontario-grown.

The hopper cars, designed originally for cement and other bulk materials, are also generally used on U. S. roads. They handle grain and soybeans only to a limited extent, however, since most country elevator spouts are placed too low to load into them.

This team can design, build and equip your plant!

Here is a team unique in the chemical and processing fields . . . a team of imagination and ingenuity, with years and years of experience in all phases of engineering. Thoroughly capable of carrying through any undertaking from flow sheet to turn-key operation—on a basis of unified responsibility. Big enough for the biggest job . . . flexible enough for *any* job. This team can competently and economically translate your ideas into an operating plant.

New Chemical Plants headquarters . . . starting point for many advances in the Chemical and Processing Industries.



CHEMICAL PLANTS DIVISION

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Five of a Kind

Five kings—two of them soybean kings—visited the Chicago Board of Trade at the time of the International Livestock Exposition's Hay and Grain Show where they had been crowned. Pictured above, left to right: J. O. McClintock, executive vice president of the Board of Trade; Harvey L. Stiegelmeier, Normal, Ill., hybrid shelled corn king and several times soybean king in the past; A. Kessel, Saskatchewan, Canada, rye king; Harold A. Metcalf, Fairgrove, Mich., North American wheat king; Carl E. Bostrom, president of the Chicago Board of Trade; Benjamin T. Gildersleeve, Hudson, Ill., soybean king; and Willard C. Kirk, Jefferson, Ohio, corn king.

—Photo by Feedstuffs Magazine

NAVY MARGARINE BILL REPORTED

A bill to permit the U. S. Navy to buy margarine for table and serving use was reported favorably by a subcommittee of the lower House of Congress armed services committee Jan. 17.

The bill has gone to the full committee of the armed services to be placed on the committee's calendar.

The Navy and Marine Corps are now prohibited from serving margarine to their men. The Army and Air Corps, however, are permitted to use it. In 1949 Congress discontinued a policy of 18 years standing of prohibiting the Army Quartermaster from serving margarine to the Army and Air Force.

HR 5012 would *permit* the Navy to buy margarine if it chooses. There is nothing mandatory about the bill.

Among those testifying in favor of it were Read Dunn, Jr., for the National Cotton Council and the American Soybean Association, and S. F. Riepma, of the National Association of Margarine Manufacturers.

Riepma pointed out that margarine possesses superior keeping qualities and can be used to better advantage than butter under difficult climatic and storage conditions. He said margarine is fully as nutritious as butter.

"The use of margarine in the Army and Air Corps has already resulted in the saving of approximately $9,800,000," said Riepma. "This is no small item in these times of tremendous expenditures. Margarine is a more stable and dependable source of vitamin A and is the equal of butter in every other way."

In New York

Approximately three out of four housewives in New York State favor legislative action to end the 66-year-old ban on the sale of yellow margarine, a state-wide survey by O'Brien-Sherwood Associates, New York City public opinion analysts, reveals.

"As shown by the survey findings, 73.6 per cent of New York State housewives favor legalization of the sale of yellow margarine; 8.3 per cent oppose such action; and 18.1 per cent have no opinion," S. F. Riepma, president of the margarine group stated.

—s b d—

BRIERLEY TO SMALL DIVISION OF ADM

Richard G. Brierley has been named assistant to W. J. Small, head of Archer-Daniels-Midland's W. J. Small Co. division.

The Small Co. division of ADM is the world's largest processor of high quality dehydrated alfalfa meal, an important ingredient in livestock and poultry feed. Brierley assumed his new duties at the Small Co. headquarters in Neodesha. Kans., Jan. 21.

In making the announcement, Small said that Brierley will be his assistant in production and procurement. He has been manager of ADM's soya products division for the past seven years and assistant vice president since 1948. He is a past president of the Soy Flour Association, vice chairman of the Soya Food Research Council, and a member of the executive council of the Bureau of Raw Materials for the American Vegetable Oils and Fats Industries.

Succeeding Brierley as sales manager of the soya products division is Wilfrid B. Cox. Harry R. Wortham will assume Brierley's duties as Washington representative.

ARID-AIRE ADOPTS TRADE-IN POLICY

In what is believed to be the first move of this kind in the industry, Arid-Aire Manufacturing Co., Minneapolis, has announced a substantial trade-in allowance for used Arid-Aire grain dryers. This policy applies to former Model "A" and "B" units which can be traded for the newer, larger-capacity Model "C" Arid-Aire.

According to W. J. Roseberry, sales manager, there is considerable demand for second hand dryers in good condition. Because Arid-Aire dryers are portable, they can be readily moved from one location to another as a complete "package" regardless of the distance involved.

Arid-Aire also announces a new high in sales for the year 1951. Of particular interest is the fact that installations were made throughout all sections of the country's grain belt, from Maine to western Montana. This substantiates reports from most areas of excessively wet grain which resulted from adverse weather conditions and a short growing season.

—sbd—

ANDERSON PUBLISHES BOOK ON PROCESSING

A new 52-page, four-color book entitled Extracting Vegetable Oils with Expellers, Solvent, Exsolex Process has just been published by the V. D. Anderson Co., Cleveland, Ohio, for owners, engineers, superintendents and foremen of plants processing oleaginous seeds and nuts.

This book, said by the company to be one of the most complete catalogs of its type ever compiled, contains well-illustrated, factual information on the major Anderson processes accompanied by flow sheets, capacities of equipment, and results to be expected.

In addition, the book describes auxiliary oil mill equipment available from Anderson such as screening tanks, oil cooling systems, flakers, roller mills, and many other units.

Of unusual interest is an analysis of various oil milling processes, and factors influencing the selection of each. This book has a description of the research and engineering facilities of the company.

Those interested in the extraction of vegetable oils can obtain a copy without charge by writing on their business letterhead to the V. D. Anderson Co., 1935 West 96th St., Cleveland 2, Ohio.

ALLOW 90 DAYS ON BUILDING ALLOTMENT

Processors and others who wish to build facilities for handling or processing agricultural products should make application for allotments of controlled materials at least 90 days before the opening of any quarter, states R. M. Walsh, acting director of the fats and oils branch of Production and Marketing Administration, Washington, D. C.

CMP-4C construction applications should be filed with the Office of Materials and Facilities, U. S. Department of Agriculture.

CMP-4C applications received after the cut-off date will be processed after those received before the deadline. "Accordingly, late applicants may be delayed in commencing construction either through the exhaustion of the Department's allotment or through their inability to obtain a place on the mill schedule," states Walsh.

MEET ASA'S NEWEST DIRECTOR

Albert Dimond
Lovington, Ill.

When Albert Dimond of Lovington, Ill., did an extremely effective job of working for repeal of the Illinois margarine law a year ago—one that put him very much in the public eye in that state—it was a foregone conclusion that the Association would draft him as one of its directors. ASA just could not afford to be without his services!

Albert is a dirt farmer, one of the most active in his part of the state. He now operates 840 acres of land, all of it rented except 160 acres which he owns. He started farming in 1935 on a 240-acre rented farm.

Dimond was born and raised in Arcola, Ill., in the heart of soybean territory. He later moved to Lovington and then to Decatur where he worked for the Wabash Railroad and managed an automobile accessory store before going on the farm.

Located in the cash grain area of Illinois, he follows a grain system. A rotation of corn, soybeans, wheat, with starter applications of fertilizer on the corn and wheat with heavier applications, principally phosphate, on clover for green manure in the wheat is his basic plan of operation. Nitrate fertilizer is added to the corn as the need is indicated.

Dimond is secretary of the Moultrie Grain Association, which has four receiving points and a 1,500,000-bushel volume. The Association handles 400,000 bushels of soybeans annually.

Mrs. Dimond, a former home economics teacher, is active in community organizations including Home Bureau and 4-H club work. She has just completed her 16th year as a 4-H club leader. At present she is president of the local women's club and treasurer of the local chapter of the Eastern Star.

The Dimonds have two children. Bill graduated from the University of Illinois last spring and is now an officer in the food service division of the Air Force. Betty is in her senior year of nurses' training at St. John's Hospital in Springfield, Ill., and president of her class.

PUBLICATIONS

Now It's Vitamin B-13

The addition of vitamin B-13 to an all-vegetable ration for pigs has resulted in up to 19 percent faster growth in Florida experiments.

Rations consisted of yellow corn, peanut meal with minerals and other vitamins added. Pigs on B-13 did not show a greater rate of gain than the controls when they were first put on the feed, however. This may be because a certain amount of time is required before pigs are depleted to the point where supplementation is of benefit.

PRELIMINARY OBSERVATIONS ON VITAMIN B-13 IN SWINE FEEDING. By T. J. Cunha and H. D. Wallace. Distillers Feed Conference Proceedings. 1951. Vol. 6, 27-29.

Counteract Inhibitor

It is well-known that there is a growth-inhibiting factor for chickens in raw soybeans. This is overcome by heating. But now workers have found a factor that will counteract the growth inhibitor. (It is called anti-SGI.)

Rats fed raw soybean oil meal grew just as rapidly as those on autoclaved meal when a crude trypsin powder was added to the ration. But it has been established that the anti-SGI activity of the trypsin powder is not due to the trypsin itself.

NUTRITIVE VALUE OF LEGUME SEEDS. XI. COUNTERACTING THE GROWTH INHIBITOR OF RAW SOYBEANS. By Raymond Borchers and C. W. Ackerson, University of Nebraska, Lincoln. Proceedings of the Society for Experimental Biology and Medicine, 1951, vol. 78, 81-83.

Amino Acids

For best results in feeding farm animals, feedstuffs should be as fresh as possible. Where processing is necessary the feedstuffs should be subjected to the lowest temperature and shortest possible time necessary to produce a marketable product.

In the case of by-products of legume seeds such as soybeans the heat processing should be restricted to the lowest temperature and shortest time required to increase protein quality to a maximum. Overheating results in partial destruction of lysine, arginine, tryptophane and histidine.

It is well-known that raw soybeans are deficient in methionine, and that heat processing largely overcomes this. However, there is a slight methionine deficiency in soy proteins that have been properly heat-treated.

NEW EVIDENCE OF FACTORS AFFECTING AVAILABILITY OF AMINO ACIDS. By L. C. Norris, department of poultry husbandry, Cornell University. Proceedings of the 1951 Cornell Nutrition Conference for Feed Manufacturers, Cornell University, Ithaca, N. Y.

B-12 for Chicks

University of Minnesota workers have undertaken experiments to determine the vitamin B-12 requirement of chicks.

They say that the level of 2.0 *ug.* per pound (4.4 *ug.* per kg.) of ration

would be satisfactory for use in starting rations for normal chicks. This would allow for an ample margin of safety.

Whether an antibiotic is used apparently has no effect on the vitamin B-12 requirement of the chick.

THE VITAMIN B-12 REQUIREMENT OF THE CHICK. By R. L. Davis and G. M. Briggs, division of poultry husbandry, University of Minnesota, St. Paul, Minn. Poultry Science, Vol. 30. July 1951.

Variety Tests

Comparisons between soybean varieties on the basis of one-row test plots are not accurate tests of performance in areas where soybeans make rank growth.

You can get greater accuracy with plots of at least three to four rows with the border rows discarded.

BORDER EFFECTS IN SOYBEAN TEST PLOTS. By Edgar E. Hartwig, Herbert W. Johnson and Robert B. Carr. Agronomy Journal, Sept. 1951.

Miscellaneous

THE USE OF DETOXIFIED COTTONSEED MEAL AS PROTEIN SUPPLEMENT FOR GROWING PIGS. By Edward L. Stephenson an l A. L. Neumann, University of Arkansas, Fayetteville, Ark. Association of Southern Agricultural Workers Proceedings, Vol. 48, 73. 1951.

FARM-TO-MILL MARGINS FOR COTTONSEED AND COTTONSEED PRODUCTS IN TENNESSEE, SEPT. 1946-JULY 1950. By A. R. Sabin, agricultural economist. Agricultural Information Bulletin No. 61. Bureau of Agricultural Economics, U. S. Department of Agriculture, Washington, D. C. June 1951.

THE INFLUENCE OF SOYA FLOUR ON BREAD DOUGHS. I. A PAPAIN-INHIBITING FACTOR IN SOYA BEANS. By E. Mitchell Learmonth. Journal of Science of Food and Agriculture, 1951. No. 10, 447-449.

Aqueous extracts of soybeans are shown to inhibit the action of papain on a gelatin substrate.

SOY FLOURS IMPROVE QUALITY OF MANY BAKERY PRODUCTS. By F. H. Brock, foods chemist, A. E. Staley Manufacturing Co., Decatur, Ill. Canadian Baker, 73 Richmond St., W. Toronto, Ontario. Oct. 1951.

LETTERS

Soy Food Pioneer

Jacob G. Grauer recently wrote us that he is dropping his membership in the American Soybean Association after many years since he is no longer making soy products. His trials as mentioned in the following letter were quite typical of pioneering efforts with soybeans as well as with other products.—EDITOR.

TO THE EDITOR:

Back about 1936 and 1937 when I first became interested in soybeans I put in all spare time reading and brushing up on this subject, later joining the Association to miss nothing that could contribute to my store of knowledge. Even today I have a collection of books and sundry data out of all proportion to my actual handling of soya products.

The years I spent in trying to stir up enthusiasm, the painstaking effort to accumulate materials for window decorations in grocery stores which sold my products, the literature compiled for public consumption for treatment in handling of soya products is

still a surprise. I don't know how I found time to cover the ground.

I even went out in three counties adjoining Philadelphia to get farmers to plant soybeans, promising to dispose of every pound they would raise. Within a radius of 50 miles of Philadelphia, no possible outlet for the distribution of soy products was overlooked, including visits to schools and colleges, hospitals, tea rooms and mercantile establishments.

A one-man business was started in the basement of my home with $19.44, and with no help pushed it up to the point where I could incorporate a small business capitalized at $2,500. Even trying to find stockholders at $1 per share was like trying to break into Fort Knox for gold.

While all this was going on, I conceived the idea of playing for bigger stakes and set up a most complete prospectus for the acquisition of an existing flour mill and adding Expeller units for soybean oil extraction. A corporation with $150,000 contemplated but the outbreak of World War II successfully squelched that venture, too, and simultaneously brought me back into the engineering field.

Like many another man I had a good taste of what it means to pioneer a new item to be included in the dietary habits of the American people and lived to see the armed forces in World War II help put it across. Soybeans were nothing new. They were known and used by Oriental nations for years, but here in America for some strange reason we just seem reluctant to learn from others.

Now that the "ice has been broken" perhaps we shall find soy products in many other forms than those for industrial uses accepted by our people in greater numbers than ever before.

It is the hope of one of your earlier members that the American Soybean Association will continue its important role as it has done in the past. —JACOB G. GRAUER, GLENSIDE, PA.

JACOB G. GRAUER

From Sardine Industry

TO THE EDITOR:

You are undoubtedly aware that the Maine sardine industry is a large user of soybean oil, and therefore we are anxious to secure any information that will help us to gain greater consumer acceptance for our product when packed with your product.

Do you have any information as to the comparative calorie content and nutritive values of soybean oil, olive oil, peanut oil and cottonseed oil?

We have just conducted a survey of several thousand wholesalers and brokers and many of them have advised that one of the chief complaints against Maine sardines is the fact that they are packed in soybean oil. Naturally we would like to overcome such consumer resistance if possible by playing up the good features of your oil in our advertising and promotion.

Possibly we could get together on a joint promotion along those lines.

A doctor friend of mine recently stated that soybean oil was much less fattening than olive, peanut or the Norwegian sild oil. That could be a very important point if true.

We would be happy to receive any information or suggestions that you may have.—*Richard E. Reed, executive secretary, Maine Sardine Industry, Augusta, Maine.*

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SOYS IN ETHIOPIA

Production of soybeans in the 1951-52 crop year in Ethiopia is expected to reach 8,300 short tons compared to 6,600 short tons the last crop year, according to Foreign Crops and Markets.

Harvesting of the 1951-52 crop is now in progress. There were 30,000 acres in 1951.

There is a growing emphasis on oilseed cultivation in Ethiopian agriculture. Leading oil crops are niger seed, sunflower seed and flaxseed. Soybeans and peanuts are of less importance.

GRITS and FLAKES... FROM THE WORLD OF SOY

◆ Specifide, Inc., 3555 Sutherland Ave., Indianapolis, Ind., manufacturer of pharmaceuticals for the feed trade, has issued a folder entitled "Unscramble Your Vitamin Problems with One Source of Supply," describing the Specifide line.

◆ Raymond C. Gaugler, president of American Cyanamid Co., died at his home at Larchmont, N. Y., Jan. 11 from a cerebral hemorrhage. He had been with Cyanamid since 1917 and had played an important part in the firm's broad diversification program. He was director of several associated companies.

◆ William M. Wallace has been appointed an assistant to the vice president of Allis-Chalmers Manufacturing Co.'s general machinery division at Milwaukee, Wis. He has been special assistant to G. V. Woody, manager of the company's processing machinery department.

◆ *One of the nation's most comprehensive petroleum and chemical laboratories is explored in Kelloggram No. 2 (1951), just published by the M. W. Kellogg Co., refinery and chemical plant engineer-contractors, 225 Broadway, New York 7, N. Y.*

◆ Colorful history of Minneapolis-Moline Co., farm machinery manufacturer, from the beginning to the present, is featured in the December issue of Southern Farm Equipment. During the year Minneapolis-Moline took over B. F. Avery & Sons Co., 126-year-old Louisville, Ky., farm machinery manufacturer.

◆ Union Bag & Paper Corp., 233 Broadway, New York 7, N. Y., announces the appointment of Alexander Calder, Jr., as executive vice president and general manager. H. S. Daniels will take over the direction of all company sales as executive vice president and general sales manager. James L. Knipe has resigned from Union Bag as vice president and general sales manager. He will continue as director.

◆ *Don F. Davis has recently joined the Lewis Supply Co.'s power transmission and materials handling department in its main offices at Memphis, Tenn. He will develop the sale of packaged products for which the department is responsible.*

◆ Harry W. Moore has returned to Lewis Supply Co., Memphis, Tenn., as a salesman after spending a year in the Air Force. Other men who have been added to the Lewis sales force include John T. Moore, Thomas Wilkerson, Emil A. Svoboda and Lee Walker.

◆ G. A. Kent, president of Kent Feeds, Muscatine and Sioux City, Iowa, has announced the appointment of R. W. "Bob" Byrne of Muscatine as district sales manager for the feed firm in central Iowa. He has been a member of the sales department at the home office for over a year.

◆ American Key Products, Inc., 270 Madison Ave., New York 16, N. Y., has

OPEN CHICAGO OFFICE

K. McCUBBIN

Chemical plants division of Blaw-Knox Co., Pittsburgh, Pa., has relocated its fats and oils department at the LeMoyne Building, 180 N. Wabash Ave., Chicago, it was announced by E. W. Forker, head of the division.

The move from Pittsburgh to Chicago was made, Forker said, to bring this department nearer to the heart of the fats and oil industries. The Chicago location will make the services of the organization more readily available to the oilseed processors, paint and varnish manufacturers, and the chemical process industries generally.

The Chicago office will be fully staffed to provide complete engineering, procurement, and construction services to customers. Heading the

opened a feed and grain department as of Jan. 1 under the management of Julian B. Marcy. Marcy has managed the feed and grain department of Brandeis, Goldschmidt & Co., Inc., since 1942. American Key Products, Inc., are distributors of domestic and imported starches, flours, gums and related products.

◆ Dr. A. G. Hogan, animal nutritionist at the University of Missouri, was awarded the $1,000 Morrison Award for outstanding research in animal nutrition at the annual meeting of the American Society of Animal Production at Chicago. He is recognized as an authority on vitamins. He and his staff have received national and international recognition for research in poultry and swine feeding.

◆ Jay G. Porterfield will direct improvement of the Oklahoma brush-roller cotton stripper and other machinery at the Oklahoma Research Station near Chickasha, Okla. He has been assistant professor of agricultural engineering at Iowa State College, Ames, since Sept. 1949.

◆ *Joseph E. Goldwyn, secretary of Western Burlap Bag Co., Chicago, died Jan. 10, the company announces.*

◆ Articles in the January issue of the Journal of the American Oil Chemists' Society include: "A Comparative Evaluation of Several Antioxidants in Edible Fats," by T. N. Moore and W. G. Bickford; and "The Effect of Trichloroethylene in the Hydrogenation of Soybean and Cottonseed Oils," by F. A. Norris, K. F. Mattil and W. J. Lehmann.

◆ Appointment of Harold C. Farmer as sales manager of the feed mill division of the Glidden Co. has been announced by J. C. Rankin, general manager of the division at Indianapolis, Ind. He has made an outstanding record as sales representative for Glidden feeds in the east central Indiana territory.

◆ Blackmer Pump Co., through its president, B. L. Gordon, announces the appointment of additional distributors who are stocking Blackmer Pump Co.'s entire product line and service parts. They include Howard Supply Co. of Oakland, Calif., and the Hetler Equipment Co. of Grand Rapids, Mich.

◆ *Woodson-Tenent Laboratories, Memphis, Tenn., will award a four-door Cadillac car to the first golfer making a hole-in-one at the National Cottonseed Products Golf Tournament at the New Orleans, La., Country Club May 19.*

◆ Valley Foundry & Machine Works, Inc., Fresno, Calif., has been appointed distributor for screw conveyors and accessories manufactured by Industrial Machinery Co., Inc., Fort Worth, Tex., and for Rotor-Lift vertical helicoid screw elevators manufactured by Southwestern Supply and Machine Works, Oklahoma City, Okla. Leonard Martin and Fay Talbot will handle the conveyor lines for Valley. Complete stocks will be maintained in Fresno, according to Leon S. Peters, president of the company.

◆ The retirement of W. L. Patrick, Chase Bag Co. sales representative for the past 33 years, has been announced from the Chase general sales office in Chicago. He established a reputation as one of the best informed packaging men in the industry, and was acquainted with the packaging requirements of firms over the entire West and Midwest. His successor is R. F. Rhoden, a Chase representative since 1947. Headquarters will remain in Boise, Idaho.

staff are K. McCubbin, manager of the fats and oils department; E. J. Loew, chief engineer; and R. E. Kistler, sales representative.

The Blaw-Knox chemical plants division also has a district operational office at Tulsa, Okla., in addition to its headquarters at Pittsburgh.

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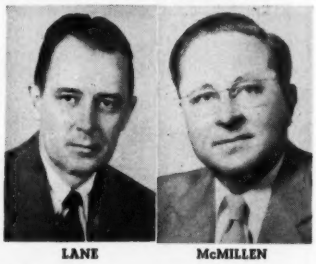
STALEY APPOINTMENTS



LANE McMILLEN

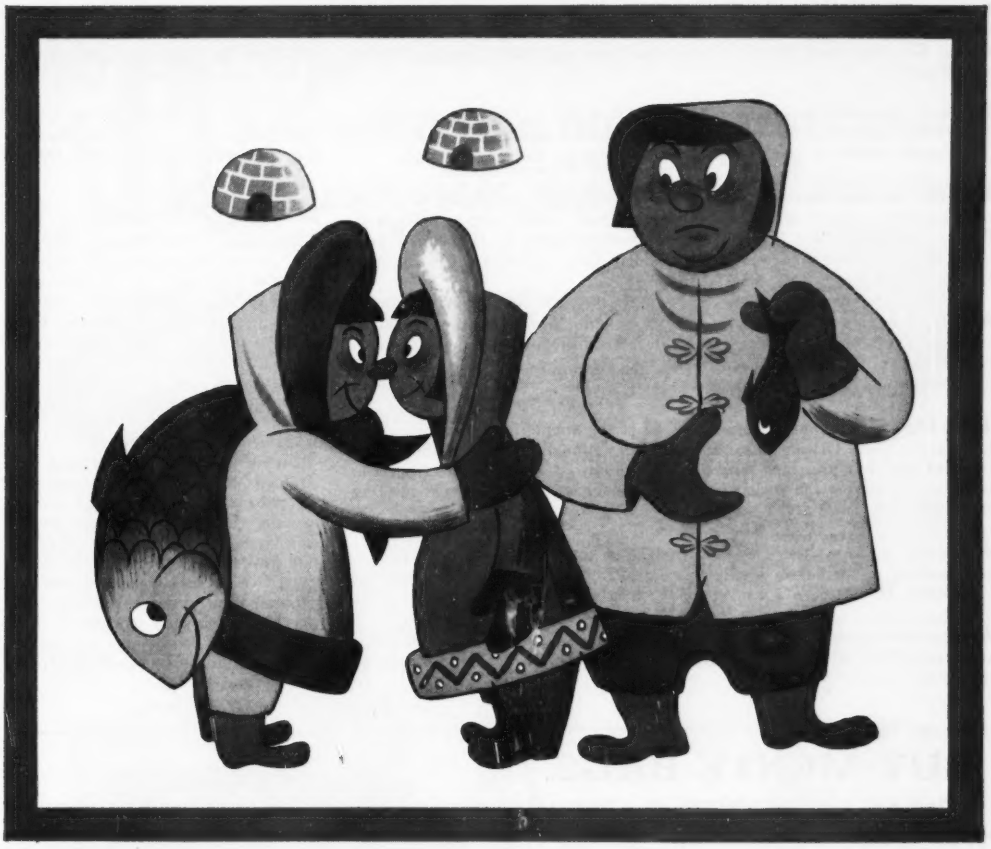
Two executive appointments in the soybean division of the A. E. Staley Manufacturing Co., Decatur, Ill., corn and soybean processor, have been announced by Paul R. Ray, soybean division manager.

Dr. W. N. McMillen, formerly assistant director of the Allied Mills, Inc. research division at Libertyville, Ill., has been named director of feed nutrition.

Edward C. Lane, who has been assistant manager of the soybean meal sales department at Central Soya Co., Inc., Ft. Wayne, Ind., has been appointed merchandising manager of the Staley Co. feed department.

A nationally known livestock nutritionist, Dr. McMillen has an extensive background in the field of animal husbandry teaching and nutritional research. He has been a professor in animal husbandry at Michigan State College and Panhandle A. & M. He has contributed numerous articles on livestock nutrition to technical and trade publications.

Lane has been with Central Soya



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◆ Promotion of two Durkee Famous Foods sales executives has been announced. Parks Starnes has been named assistant sales manager of Durkee's Macon, Ga., plant and David D. Joyce has been appointed Georgia district sales manager.

◆ *Carl E. Bostrom, vice president of Lowell Hoit & Co., has been reelected to his third successive term as president of the Chicago Board of Trade, the seventh member of the Exchange in its 104 years to be so honored.*

◆ Elected to three-year terms as directors on the Chicago Board of Trade were Edward J. Kasmarek, vice president, Illinois Grain Corp.; William F. Rowley, Daniel F. Rice & Co.; John E. Brennan, John E. Brennan & Co.; Ford M. Ferguson, vice president, Glidden Co.; and Clarence Rowland, Jr., assistant secretary, Standard Milling Co.

◆ Harry Langhorst, manager of the insecticide department of American Cyanamid Co.'s agricultural chemicals division, died Jan. 19 following a prolonged illness. He had been with Cyanamid since 1929 and was one of the most widely known persons in the insecticide field.

◆ Dr. Klare S. Markley, principal chemist of the Southern Regional Research Laboratory, New Orleans, La., and an internationally known authority on fats and oils, was presented with the 1951 southwest award of the American Chemical Society at the society's seventh annual southwest regional meeting at Austin, Tex., recently.

◆ Kenneth C. Towe was elected president of the American Cyanamid Co. at a meeting of the board of directors Jan. 22, succeeding the late Raymond C. Gaugler. He has been a director of the firm since 1939.

◆ Adrian D. Joyce, founder and chairman of the board of the Glidden Co., has been elected to the board of directors of the Cleveland Trust Co., one of the nation's major banks.

since 1946. A native of Laramie, Wyo., he received his bachelor's degree from the University of Wyoming in 1938 and also attended the University of Kansas.

The feed department of the A. E. Staley Manufacturing Co. handles the sales of both corn and soybean feeds.

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EXPAND DRIER LINE

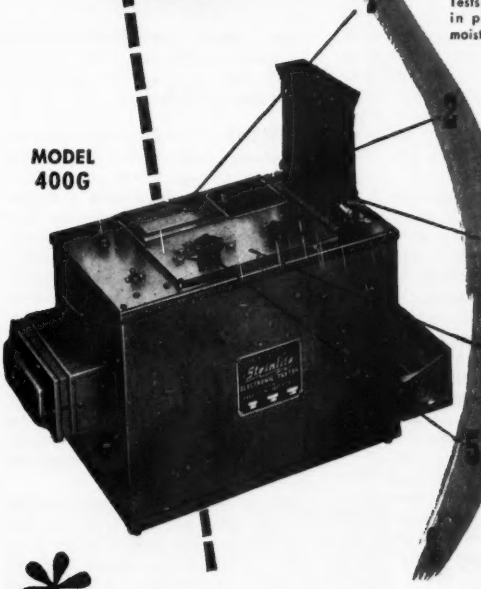
Expansion of the Shanzer "Economy" line of grain driers to include the new "10" and "30" models was emphasized at the recent annual sales meeting of H. M. Shanzer Co., 85 Bluxome St. San Francisco 7, Calif.

Shanzer is one of the largest designers and manufacturers of grain drying and handling machinery and equipment in the country.

"While impending shortages of strategic materials, necessitated by the rearmament program, are giving us some cause for careful planning," said Harold M. Shanzer, president of the firm, now celebrating its 25th year, "we are endeavoring to produce as many grain driers as possible during the coming year, recognizing that the careful processing of cereal grains will add to the food supply of the nation.

13 NEW OPERATING IMPROVEMENTS THAT *Save you time and money*

SEEDBURO *Steinlite* MOISTURE TESTER



A wider Moisture Range—Tests from 1½% moisture in peanuts, up to 50% moisture in corn.

"Memory-refresher" instruction panel on the top enables even inexperienced workers to test grain quickly.

Simplified funnel guides let you easily slip the funnel in position.

Stainless steel top lasts longer, stays clean.

New Dial-type selector switch speeds your meter reading.

New stronger frame withstands rough handling.

New Charts check with government inspection points, assure the accuracy of your report.

New Voltage Stabilizer prevents fluctuation, insures accurate reading.

New Built-in thermometer simplifies temperature readings, saves you time.

Larger, easy-to-read charts help you get an accurate moisture analysis faster.

An improved dust-proof cabinet keeps your 400G operating accurately longer.

New glass meter cover is double strength, protects your meter from accident.

New gray crackle finish resists chipping, scarring.

The NEW 400G's faster operation saves you time. The increased accuracy saves you money. The sturdier, trouble-free design saves maintenance.

WRITE TODAY for a complete description, send serial number of your old Steinlite for estimated trade-in value. No obligation, of course.

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729 CONVERSE BUILDING CHICAGO 6, ILLINOIS

SEEDBURO THE BlueMaster LINE

WASHINGTON DIGEST

By WAYNE DARROW
Washington Correspondent for
The Soybean Digest

PRICES. The soybean price situation is getting more official attention now than any other in the entire farm field.

Officials in USDA and OPS worked hard the end of January in preparation for the industry meetings on the price and distribution problems. The most determined attack on price ceilings yet made by the industry was expected.

USDA has simply sought to explain the baffling price situation in order to answer a barrage of questions from Congress. It is making no recommendations to OPS on ceilings—hasn't been asked. If forced, it will oppose raising meal ceilings.

USDA's explanation runs about like this: The crushing industry is way over-expanded. There aren't enough beans to go around this year. Demand for meal is unprecedented. Crushers are forced to compete fiercely to get enough beans to keep going. The remaining bean stocks are in strong hands. As a result, bean prices have been bid up higher than depressed oil prices and meal ceiling prices warrant.

Other developments that further dislocate the price situation are noted: Custom grinding for feed mixers has become a major operation since December. Mixers have been driven to it to get enough meal.

Some crushers are adding limestone and other minerals to meal and selling it as mixed feed, thus escaping part of their price squeeze.

Some crushers have gone "vertical." That is, they're making and selling mixed feeds, and cutting down direct sales of meal. This makes them competitors of former customers.

USDA has no answer to the problem. Officials expect the situation to continue some time. They look for bean prices to stay high, though there is some doubt they'll go to ceilings. They don't think prices will decline this spring, but the usual seasonal rise isn't expected to be as great as usual. An irregular up and down price movement is probable.

OPS thinks the soybean industry has more fundamental problems than price ceilings. It doesn't think these will be cured—and perhaps not be helped much—by raising meal ceilings. *It looks for meal prices to soften within 30 days.*

DECONTROL? OPS intends to sit tight and do nothing on ceilings—*if* it can withstand present heavy pressures. If forced to act, price officials say the only solution would be complete decontrol. To raise meal ceilings $10 a ton or so would be a halfway measure, of little value.

It is absolutely against OPS policy to decontrol any price that is important to food. That's fixed top policy. It seems doubtful that Mike DiSalle's successor (some poor devil who can't run fast enough to avoid getting stuck with the job) will change the policy.

Price men say that decontrol of meal prices would force decontrol of all feed prices. Up to the last week in January, the matter hadn't been brought up for top level discussion in OPS. Nothing had been started on a new regulation. It ordinarily takes weeks to get one through the mill after the broad decision to act has been made.

Studies indicate that the rate of oil meal feeding per animal unit has increased about 5 percent above a year ago. Meal production is up about 2½ percent. Animal units have increased about 2½ percent.

Production of all oil meals for the first quarter of the new crop year was up 10 percent over the same quarter last year, but the total supply increased only 5 percent. Domestic disappearance was up 15 percent as compared with a year ago.

OIL OUTLOOK. The oil price prospect continues to be discouraging. USDA officials say supplies of vegetables oils exceed "any conceivable uses" for the near future.

Carryover stocks of edible vegetable oils rose from 281 million pounds Oct. 1, 1950, to 413 million pounds last Oct. 1. Officials estimate the carryover next October at around 650 million pounds.

The chief depressing factor in the soybean oil export outlook is the large 1951 olive crop in Spain and Italy. That more than offsets small gains elsewhere. Historically, the olive crop is big one year, small the next. Last year's was an all-time record high. There is some speculation here as to a possible larger market for U. S. soybean oil in Europe in 1952-53.

The animal oil supply picture is much better price-wise than that of vegetable oils. Lard exports are still high. Butter production is down. Carryover stocks last October were little more than half of what they were the year before.

FEEDS. Officials are worried about the expected big cut in the spring pig crop. If the corn crop is good, they see cheap corn and dear hogs coming—and little more total meat supply in 1952-53. They've been driving for bigger meat production and consumption, and the worry has been a shortage of feed. This has been the chief basis for getting authorizations for more nitrogen fertilizer plant capacity.

Corn will be scarce and high-priced until fall, but it may go down to support levels then if the pig crop is cut sharply. There won't be any big surplus, but the edge may be taken off the shortage.

Prices of other feed grains are due to ease off in late spring when Canada will probably ship in large quantities of her all-time record supply of feeds: 190 million bushels feed wheat, 150 million bushels barley, 140 million bushels oats.

USDA'S expectation of tight feed supplies the next four years until fertilizer production can boost yields probably still holds good, even though there may be an easing of supplies during the next year. Livestock and poultry numbers will continue to increase. If hog numbers drop sharply this year, the upward trend will likely be resumed in 1953—the corn-hog price ratio should be favorable again next fall. *Demand for soybean oil meal is due to increase every year.*

Increased use of urea as high-powered protein feed is coming. It can

be used as a nitrogen fertilizer, or as a synthetic feed. One ton that now sells for about $130 is rated the equal of 6.7 tons of 41 percent soybean meal for protein. It can be fed only to ruminants (cattle and sheep) and then only in connection with a bulky carbohydrate ration—like corn cobs.

USDA nitrogen plans call for production of 150,000 to 200,000 tons annually within two or three years. A feed advisory committee recommended plant construction to expand present urea output for feed from 30,000 tons to 150,000 tons annually.

Congress will extend price controls another year, but likely will loosen them more—certainly not tighten them. That's the consensus of farm leaders on the Hill, many of whom would like to junk OPS. They give price decontrol only an outside chance.

IMPORT BAN. Chances slightly favor the repeal of the import ban on peanuts and dairy products. It was tacked on to the Defence Production Act last year. It expires June 30 unless extended, but the Administration is pressing for immediate repeal.

There is growing sentiment for knocking this flat ban out, and for making import limitations flexible. Agriculture already has three such flexible laws.

Foreign-minded congressmen—and their number is increasing—agree with the Administration that U. S. foreign policy is too badly upset by such import restrictions. Except for dairymen, farm organizations aren't opposing repeal, but they ask in return that more use be made of the escape clause in reciprocal trade agreements.

USDA PROBE. USDA faces its first full-fledged investigation in history. The Senate has voted its agricultural committee $50,000 for the job, and ordered a report made by June 30. Hearings may not start until late February.

The investigation won't stop with CCC. Senators say they'll look into any charges brought by reputable sources. In addition to the grain storage investigation now under way, the committee has slated these:

The leasing of Camp Crowder, Mo., to private parties and immediate release to CCC for storage at a big profit. The peanut purchase program that has cost taxpayers an average of $2 an acre yearly since 1937. Alleged dealing by Farm Credit Administration officials in St. Louis in oil and gas rights on public lands. CCC's domestic and foreign sales.

The grain shortage investigation is showing some 25 or 30 flagrant cases of warehousemen selling CCC stored grain, and now caught without either grain or money. They're mostly in Texas, with a few in the Kansas City and Chicago areas. CCC audits began uncovering them last October. They're coming to light now because of the draining off of surpluses.

All are under CCC's uniform grain storage agreement contracts of which more than 12,500 are in effect. The entire responsibility for keeping the grain intact and in good condition is put on warehousemen in the agreement. The agreements were written this way to avoid the heavy expense of checking grain deposits as bank deposits are checked.

One of the big investigation questions is whether any CCC employees have been involved in irregularities.

USDA officials are really welcoming the probes. So also do many farm leaders in Congress. They think agriculture will come out looking pretty good, but if not, they want a full exposure.

NOTE. The 1952-crop soybean price support was quietly set two months ago at 90 percent of Nov. 1951 parity—$2.56 a bushel national farm average. It has been generally overlooked since it was buried in a larger release. The rate is 11 cents a bushel higher than for the 1951 crop, and means about $2.81 a bushel, Chicago.

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SOLVENT CONSULTANT

N. H. (Hunt) Moore, consultant engineer for solvent extraction plants, recently opened new offices at 1206 Sledge, Memphis, Tenn., moving them from Wilson, Ark. Moore previously was general manager for Delta Products Co., Wilson, Ark.

--- MARKET STREET ---

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate: 10c per word per issue. Minimum insertion $2.00.

WANTED—USED EXPELLER AND other equipment for summer delivery. Reply Soybean Digest, Box 319C.

WANTED—SMALL HEXANE SOLVENT plant, 25 or more tons daily capacity. Reply Soybean Digest, Box 319p, Hudson, Iowa.

SEED DIRECTORY

A charge of $2 will be made to subscribers for listing one variety in the March and April issues, $1 for each additional listing. Quantity for sale and variety are listed.

ARKANSAS

Stuttgart—Jacob Hartz Seed Co., Inc., 2,500 bu. uncertified Volstate, 3,000 bu. uncertified Dortchsoy 31, 1,000 bu. uncertified Roanoke, Ogden and Mamloxi.

ILLINOIS

Bloomington—Ed R. Smith, 2009 E. Jackson, 5,000 bu. field certified Adams, 5,000 bu. field certified Hawkeye, 1,000 bu. field certified Lincoln, 1,000 bu. field certified Blackhawk. All bulk or bagged.

Geneseo—C. D. Ford & Sons, Rt. 4, 500 bu. certified Adams, 500 bu. certified Hawkeye.

Pontiac—Steve Turner Farm Seeds, 1505 N. Aurora St., 2,000 bu. certified Adams, 2,000 bu. certified Hawkeye.

Ursa—Frank W. Lewis, 1,400 bu. certified Lincoln, 3,000 bu. uncertified Lincoln, 1,800 bu. certified Hawkeye.

Woodstock—Pell-Bari Farms, Inc., 305 Clay St., certified Blackhawk, certified and uncertified Hawkeye.

IOWA

Estherville—A. B. Rosenberger, 500 bu. certified Blackhawk.

Grinnell—W. C. Molison, Rt. 3, 700 bu. field certified Adams.

Grinnell—Carl Tokle, Rt. 4, 250 bu. certified Adams.

Hudson—Strayer Seed Farms, 800 bu. certified Adams, 300 bu. uncertified Bansei.

Nevada—Thomas E. Wilson Farm, Box 53, 900 bu. certified Hawkeye.

KANSAS

Carbondale—Lowell Chamberlain, 300 bu. certified Wabash.

MINNESOTA

Bird Island—Anthony Ziller, 600 bu. registered Blackhawk, 2,000 bu. uncertified, certified and registered Capitol.

Morton—Harold Buscho, 200 bu. Minnesota registered Blackhawk.

Sleepy Eye—Arthur V. Domeier, Rt. 1, 100 bu. registered Blackhawk.

MISSOURI

Bragg City—Jeff Wade, Jr., Rt. 1, 1,600 bu. certified Ogden.

Laddonia—Carver Brown, Rt. 1, 600 bu. certified Wabash.

St. Charles—H. V. Seeburger, Rt. 1, 400 bu. uncertified S-100, 200 bu. certified Wabash, in paper bushel bags.

St. Louis 2—Cypress Land Farms Co., 314 Merchants Exch. Bldg., 1,000 bu. certified Adams, 2,500 bu. certified Hawkeye, 800 bu. uncertified Rickard Korean, 900 bu. Cypress No. 1, 500 bu. certified S-100, 2,000 bu. uncertified Ogden.

OHIO

Ashtabula—Clark Mann & Son, Rt. 2, 1,000 bu. certified Monroe.

Greenwich—W. W. Briggs, Rt. 2, 500 bu. certified Monroe.

TENNESSEE

Newbern—C. Hays Hollar, Box 127, 500 bu. certified Wabash, 300 bu. Wabash grown from certified seed, 300 bu. certified Ogden, 1,200 bu. Ogden grown from certified seed.

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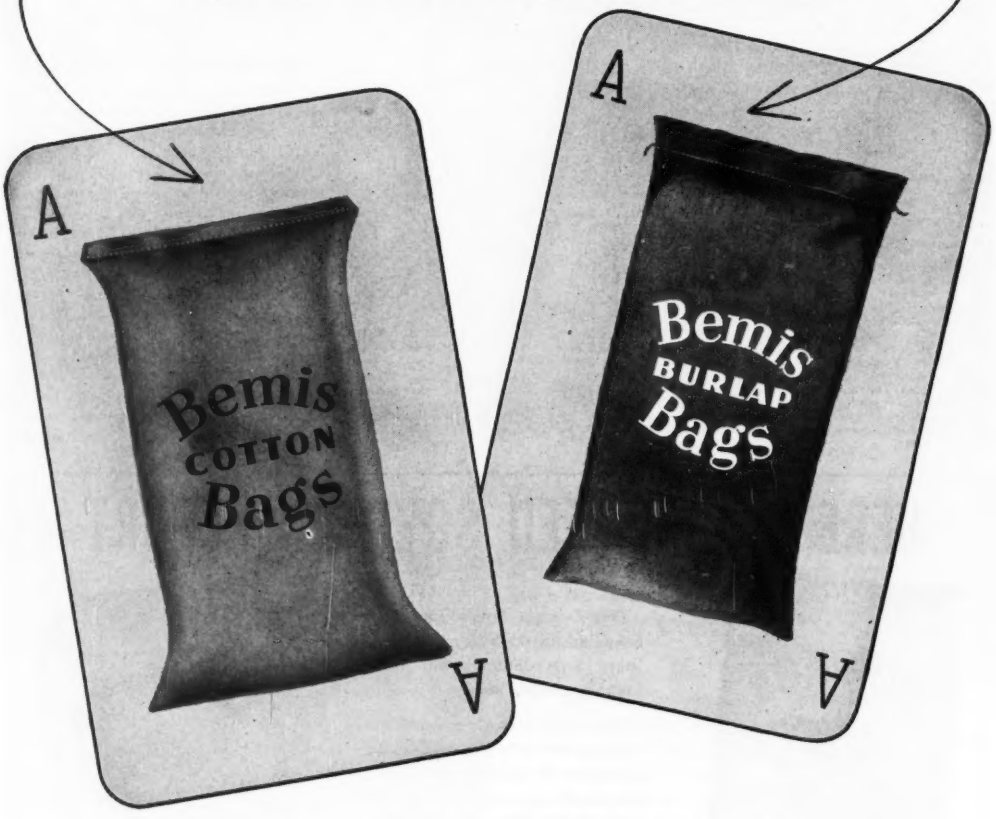
ONTARIO CONVENTION

The second annual Ontario Soybean Convention will be held at the Pyranon Ballroom in Chatham, Ontario, Feb. 20, beginning at 10 a. m.

Reports of experiments and research on soybeans at the different experiment stations will be given by A. W. Owen, Harrow Experimental Station; Dr. F. Dimmock, Department of Agriculture, Ottawa; George Jones, Ontario Agricultural College, Guelph; Ken Murphey, Victory Mills, Ltd.; and Dr. A. A. Hildebrand, Experimental Station, Harrow.

Geo. M. Strayer, editor of the Soybean Digest and secretary of the American Soybean Association, will be guest speaker at the noon banquet.

A Pair of Aces for Packing Your Soybean Meal and Cake



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IN THE MARKETS

Meal Famine Deepens

The growing famine of soybean oil meal with some strength in soybean and oil markets the last part of the month characterized January markets.

Meal was progressively harder to obtain. Production was good but it was being applied on previous contracts. Some Southern meal was traded and a little peanut meal moved North. Some meal was being traded on a swap basis.

But an increasing number of processors—most of them with screw press outfits—did custom work. They processed beans bought on the market by feed mixers. The going rate was reported to be 25 to 40 cents a bushel, which made the meal worth $8 to $14 above ceilings. Some processors were also "going vertical," or manufacturing mixed feeds themselves.

An expanding demand for animal proteins grew out of the dearth of soybean oil meal.

Soybean futures pushed higher again during the latter part of January and regained ground lost in December. This was due to growing export talk, comparatively small offerings and the growing disposition of processors to take on custom work.

Depressing factors in the oil market were poor markets for cotton and vegetable oils and lack of a good export outlook. Lack of tankcars and storage space was also said to be a factor.

Holland bought 3,200 tons of soybean oil for shipment through March. Belgium bought 500 tons for prompt delivery.

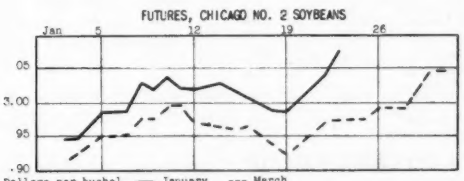
January No. 2 soybeans, Chicago, opened at $2.94½, the low for the month, and closed at $3.08, the high. March futures opened for the month at $2.91, the low, and closed at $3.04¾, the high.

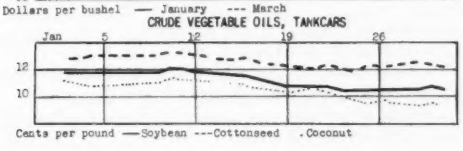
Crude soybean oil in tankcars, f.o.b. Decatur, opened for the month at 11¾c and closed at 10½c, a low. High was 12c Jan. 10-11.

Spot bulk soybean oil meal was at the $74 ceiling all month, and most futures were also quoted at the ceiling.

MEMPHIS SOYBEAN OIL MEAL FUTURES JAN. 31*
(Contract 100 tons)
Soybean Meal Bulk—Decatur
Mar., 74.00b; May, 74.00b; July, 74.00b; Aug., 74.00b; Oct., 71.10 @72.25; Dec., flat 70.25.

CHICAGO SOYBEAN OIL MEAL FUTURES CLOSE JAN. 31*
Mar., 74.00b; May, 74.00b; July, 74.00b; Oct., 71.50b-72.00a; Dec., 71.00b-73.00a.





CHICAGO SOYBEAN OIL FUTURES CLOSE JAN. 31*

Mar., 10.95; May, 11.20; July, 11.40; Sept., 11.55; Oct., 11.48; Nov., 11.45.

NEW YORK SOYBEAN OIL FUTURES CLOSE JAN. 31*

May, 11.00b; July, 11.20b; Sept., 11.34b; Oct., 11.43; Nov., 11.40b.

a-Asked b-Bid *Reported by the Chicago edition of Wall Street Journal.

• PROCESSING OPERATIONS. Reported by Bureau of Census, Department of Commerce, for October, November.

PRIMARY PRODUCTS EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS: PRODUCTION, SHIPMENTS AND TRANSFERS AND STOCKS, NOVEMBER 1951—OCTOBER 1951

Products	Production		Shipments and transfers		End of month stock	
	Nov. 1951	Oct. 1951	Nov. 1951	Oct. 1951	Nov. 30, 1951	Oct. 31, 1951
SOYBEAN:						
Cake and meal†	535,494	§499,801	532,083	§508,262	30,455	§27,044
Lecithin‡	1,761,608	1,705,793	1,482,424	1,457,014	2,474,554	2,195,370
Edible soy flour, full fat†	820	503	669	511	242	91
Edible soy flour, other†	4,799	6,025	4,843	5,751	1,077	1,121
Industrial soy flour†	1,701	(*)	1,687	(*)	582	568

§ Revised. * Not shown to avoid disclosure of individual operations.
† Unit of measure in tons. ‡ Unit of measure in pounds.

SOYBEANS: RECEIPTS, CRUSHINGS AND STOCKS AT OIL MILLS, BY STATES, NOVEMBER 1951—OCTOBER 1951

(Tons of 2,000 pounds)

State	Receipts at mills		Crushed or used		Stocks at mills	
	Nov. 1951	Oct. 1951	Nov. 1951	Oct. 1951	Nov. 30, 1951	Oct. 31, 1951
U. S.	981,149	*2,269,144	690,348	646,684	2,041,478	*1,750,677
Arkansas	61,832	86,677	15,495	13,301	121,590	75,253
Illinois	250,586	1,013,665	294,790	288,285	737,417	781,621
Indiana	29,878	209,258	61,432	60,427	139,204	170,758
Iowa	243,359	*180,932	100,247	81,678	252,484	*109,372
Kansas	22,652	45,548	19,263	13,222	37,278	33,889
Kentucky	24,004	79,005	18,105	19,534	49,038	63,139
Minnesota	52,134	45,381	27,347	24,476	46,006	21,219
Missouri	40,817	120,627	22,376	24,686	129,146	110,705
Nebraska	19,756	(§)	5,038	3,432	27,748	13,030
N. Carolina	30,749	6,844	4,426	1,203	32,074	5,751
Ohio	70,422	276,634	65,073	68,289	221,393	216,044
Oklahoma	1,809	8,753	3,025	(§)	7,386	8,602
Texas	(§)	(§)			(§)	
All other	133,151	195,820	53,731	48,151	220,714	141,294

* Revised. § Included in "All other" to avoid disclosure of individual operations.

SOYBEAN PRODUCTS: PRODUCTION AND STOCKS AT OIL MILL LOCATIONS, BY STATES, NOVEMBER 1951—OCTOBER 1951

State	Crude oil (thousand pounds)				Cake and meal (tons)			
	Production		Stocks		Production		Stocks	
	Nov. 1951	Oct. 1951	Nov. 30, 1951	Oct. 31, 1951	Nov. 1951	Oct. 1951	Nov. 30, 1951	Oct. 31, 1951
U. S.	225,365	214,799	77,029	65,782	535,494	*499,801	30,455	*27,044
Arkansas	4,529	3,834	2,260	1,540	11,868	10,526	1,385	1,778
Illinois	100,268	99,831	30,288	29,835	219,948	216,217	10,218	9,981
Indiana	21,018	20,108	6,352	6,868	48,199	47,737	1,406	1,629
Iowa	30,929	26,128	9,987	6,564	80,650	64,795	3,431	3,009
Kansas	6,014	4,375	2,752	1,462	15,596	10,633	829	697
Kentucky	6,437	6,906	707	643	13,868	14,856	505	436
Minnesota	8,094	7,253	3,585	2,902	21,929	18,943	829	745
Missouri	6,598	7,384	2,476	1,520	18,032	19,563	(1)	1,875
Nebraska	1,441	1,029	653	369	4,252	2,890	(1)	(1)
N. Car.	1,271	322	1,256	(1)	3,485	959	225	206
Ohio	21,774	22,628	6,374	5,647	51,640	53,891	2,004	2,477
Oklahoma	877	(1)	343	(1)	2,519	(1)	(1)	(1)
Texas							(1)	(1)
All other	16,115	15,001	9,996	8,432	43,508	*38,791	9,623	*4,411

* Revised. (1) Included in "All other" to avoid disclosure of individual operations.

• SOYBEAN GLUE. Consumption of soybean glue by the softwood plywood industry in November totaled 3,873,000 lbs. compared to 5,268,000 lbs. in October, reports Bureau of the Census.

Consumption of phenolic resins in November was 2,260,000 lbs.; and of all glues, 6,776,000 lbs.

Stocks of soybean glue totaled 3,219,000 lbs. Nov. 30; and 2,999,000 lbs. Oct. 31.

• FARM STOCKS. Stocks of soybeans on farms Jan. 1 are estimated at 103.4 million bushels, slightly above the previous record stocks of 101.7 million bushels on farms Jan. 1, 1951. The percentage of the 1951 crop of soybeans on farms is higher than a year ago and much higher than average.

Late harvesting in some areas contributed to the high percentage and in a few localities considerable quantities still remain to be harvested. The acreage remaining to be harvested, however, is small in relation to the U. S. total.

The disappearance from farms of 180 million bushels for the October-December quarter also was relatively heavy although less than the record 199 million bushels for the corresponding period a year ago. The seven-year average disappearance for the period is around 150 million bushels.

The largest stocks are in Illinois with 33 million bushels, followed by Iowa with 18 million and Indiana with 14 million bushels. The South Atlantic states account for 4.5 million bushels. Virginia and North Carolina have the bulk of the stocks in that area. The South Central states have farm stocks of 5.3 million bushels, with 2 million of these in Mississippi and 1.6 million in Arkansas.

STOCKS OF SOYBEANS ON FARMS JAN. 1

State	Average 1943-50	1951	1952	State	Average 1943-50	1951	1952
	Thousand bushels				Thousand bushels		
N. Y.	121	88	88	Md.	272	342	554
N. J.	125	199	162	Va.	666	1,069	1,165
Pa.	212	252	243	W. Va.	8	6	6
Ohio	6,582	9,565	8,542	N. C.	1,505	1,378	1,683
Ind.	8,448	13,381	13,850	S. C.	83	327	571
Ill.	18,226	28,721	33,097	Ga.	50	172	110
Mich.	877	1,026	1,255	Fla.	---	8	4
Wis.	299	300	383	Ky.	457	948	618
Minn.	2,691	8,897	8,105	Tenn.	245	776	480
Iowa	10,891	20,381	17,870	Ala.	144	69	79
Mo.	2,389	7,230	7,224	Miss.	674	1,700	2,082
N. Dak.	42	194	146	Ark.	566	1,624	1,618
S. Dak.	134	455	478	La.	179	166	116
Nebr.	195	504	472	Okla.	28	78	322
Kans.	535	1,572	1,686				
Del.	274	300	362	U. S.	56,933	101,728	103,380

• INSPECTIONS. Inspected receipts of soybeans dropped seasonally in December to a total of 7,385 cars compared with 13,797 in November, and 10,371 in Dec. 1950, according to reports to the Department of Agriculture. December inspections brought the total for the first three months of the current season to 61,728 cars compared with 70,499 the same period last season and 62,213 cars the first three months of the 1949-50 season.

The quality of the soybeans inspected in December improved over the preceding month but was below the same month for the preceding four years. Only 59 percent graded No. 2 or better compared with 51 percent in November and 77 percent in Dec. 1950.

Inspections of soybeans in December included the equivalent of 719 cars inspected as cargo lots and 505 cars as truck receipts.

• SUPPORT PROGRAM. Fewer 1951-crop soybeans were placed under price support through December than was true of the 1950 crop for a like period, reports Production and Marketing Administration of the U. S. Department of Agriculture.

A total of 9,362,045 bushels of soybeans were under price support as of Dec. 31 compared with 13,567,999 bushels for the same date last year.

Of the above total 4,389,225 bushels were farm-stored under loan, 4,815,696 bushels were warehouse-stored, and 54,782 bushels were under purchase agreements.

● **STOCKS.** Production and Marketing Administration's commercial grain stock reports.

U. S. Soybeans in Store and Afloat at Domestic Markets (1,000 Bu.)

	Jan. 2	Jan. 9	Jan. 16	Jan. 23	Jan. 30
Atlantic Coast	1,481	1,313	1,424	1,462	1,547
Gulf Coast	436	528	654	540	173
Northwestern and Upper Lake	473	466	435	395	365
Lower Lake	2,662	2,578	2,674	2,581	2,270
East Central	2,890	2,813	2,794	2,614	2,448
West Central Southwestern and Western	1,817	1,850	1,761	1,655	1,608
Total current week	9,759	9,548	9,742	9,247	8,411
Total year ago	13,915	13,751	13,792	13,086	12,738

U. S. Bonded Soybeans in Store and Afloat at Canadian Markets

Total current week	162	162	162	162	162
Total year ago	96	96	96	96	96

Total North American Commercial Soybean Stocks

Current week	9,921	9,710	9,904	9,409	8,573
Year ago	14,011	13,847	13,888	13,182	12,834

Soybean stocks of 220 million bushels were stored in all positions on Jan. 1, according to reports assembled by the Bureau of Agricultural Economics. These stocks are the second largest of record, being exceeded only by the nearly 232 million bushels on hand Jan. 1, 1951.

Included in the current totals are farm stocks of over 103 million bushels and nearly 45 million bushels in interior mills, elevators and warehouses, as estimated by the Crop Reporting Board. Stocks in both positions are of record size. Also included in the total are nearly 10 million bushels of commercial stocks at terminals, as reported by the Production and Marketing Administration, and 62 million bushels in processing plants, as enumerated by the Bureau of the Census. The Jan. 1 terminal stocks are the lowest in nine years. Stocks at processing plants are lower than for January 1, 1950 and 1951, but above other years of record.

From an estimated supply of 285 million bushels (carry-over of 4,154,000 bushels plus the 1951 crop of 280,512,000 bushels) current stocks indicate a disappearance of nearly 65 million bushels. Soybeans processed in the October-December quarter were reported by the Bureau of the Census at 67.7 million bushels. In addition, some were exported and small quantities were used for feed and other purposes.

● **EXPORTS.** U. S. exports of soybeans and soybean oil for November, as reported by the Office of Foreign Agriculture:

Soybeans	3,514,268 bushels
Soybean oil (crude)	29,046,907 pounds
Soybean oil (refined)	4,665,500 pounds

Converted to a soybean equivalent basis, the exports for November amounted to 6,989,967 bushels of beans.

The grain inspection department of the New Orleans Board of Trade reports that 596,000 bushels of soybeans were cleared for export shipment from the Port of New Orleans during the month of December, compared with 2,072,000 bushels in November.

December shipments included: Belgium 51,000 bushels; Holland 296,000 bushels; and Israel 149,000 bushels.

● **SHORTENING.** Standard shortening shipments reported by the Institute of Shortening and Edible Oils, Inc., in pounds.

Dec. 29	2,921,926
Jan. 5	4,191,752
Jan. 12	5,065,540
Jan. 19	4,852,814

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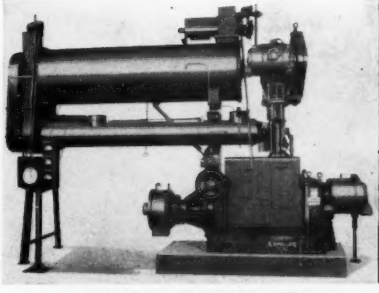
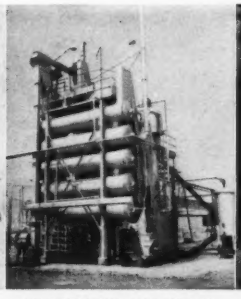


TWIN MOTOR SUPER-DUO OIL EXPELLER



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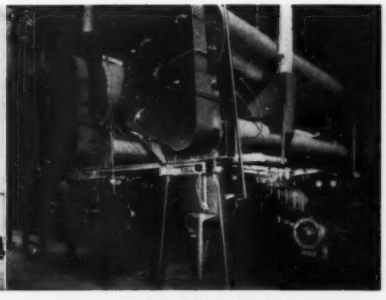

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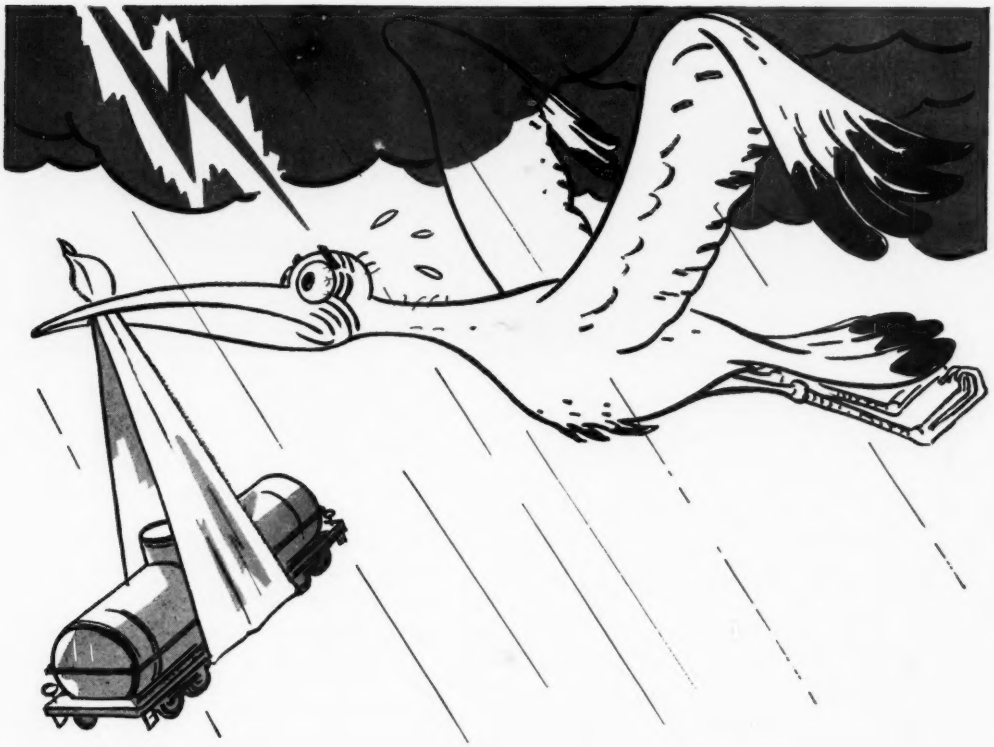

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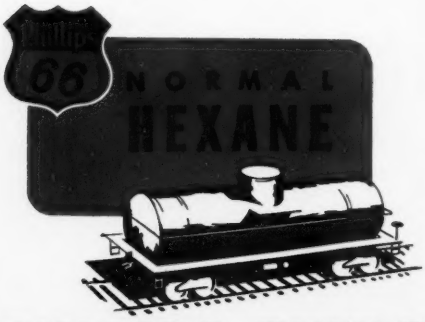

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